

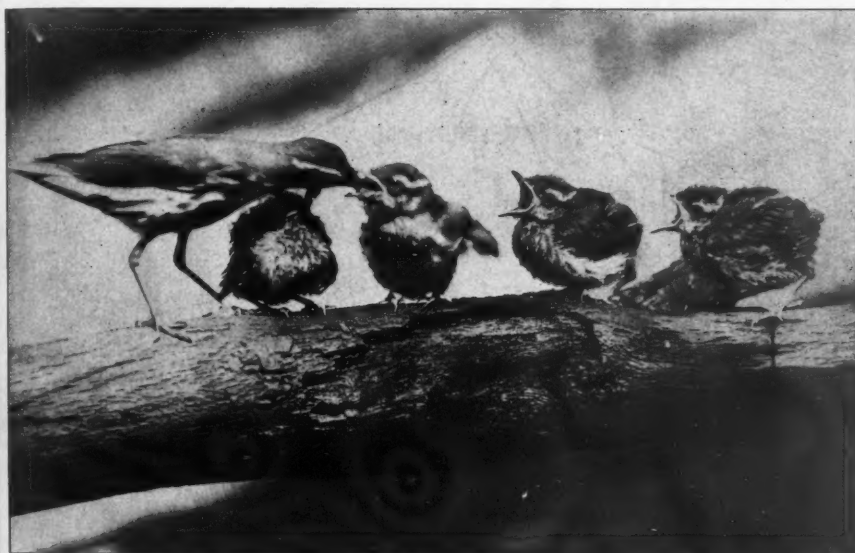
VOL. XII. NO. 8

1915

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# THE CORNELL COUNTRYMAN

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PEACE OR WAR FOR THE FARMER?

By DAVID STARR JORDAN

HISTORY OF THE HOLSTEINS

By E. A. POWELL

COMBINING FARMS

By R. H. DENMAN

POTATO PRODUCTION IN NEW YORK STATE

By E. V. HARDENBURG

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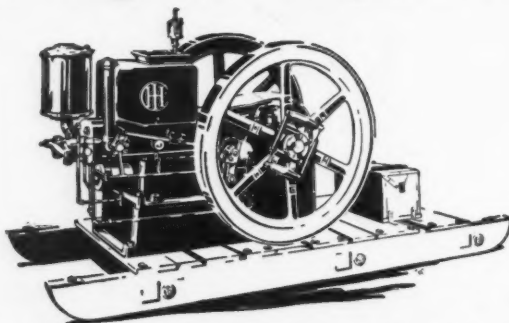
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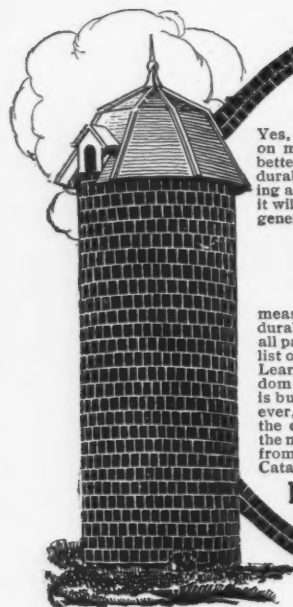
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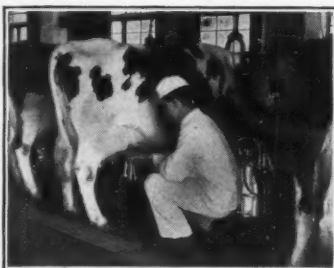
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SPRING IN ALL HER GLORY

# THE CORNELL COUNTRYMAN

Vol. XII

MAY, 1915

No. 8

## PEACE OR WAR FOR THE FARMER ?

BY DAVID STARR JORDAN, '72

Chancellor of Stanford University

ON the seal of the federal department of agriculture are these words: "Agriculture is the foundation of manufacture and commerce." The foundation of agriculture is security and justice. When these are taken away, as they are in war, the whole fabric, dependent on the farmer, is destroyed.

The American farmer of today is wondering what the war is going to do to him. Temporarily, it raises some prices; also it has lowered others and has closed markets to him. Permanently, there is only loss, for the farmer of America gains nothing through the loss of the farmers of Europe, because whatever harms the prosperity of one part of the world harms all. For some of the products, for a short time, the American farmer may get a little more; but when a million men are killed their demands on their fellowmen cease and the market for the things they need dies with them. Right now two great staples are almost unmarketable: cotton is a drug on the market; potatoes do not move from the farm cellar.

Then, too, war takes money, and money which goes for ammunition can not be spent for food. Whoever buys of the American farmer must have the price of the purchase. In war there is no demand for luxuries; California fancy fruit goes begging in European markets. Albermarle pip-pins from Virginia are no longer the fashion in London. No one thinks of

buying them when the continent is burning, and when cheap food is sought because the costs of war are so dear.

Contrast those countries which have known peace and security and those which have not.

Under the flag where hatred dies away the farmer feels absolutely certain to care for his crops in security and in the evening of the day or the year or the lifetime to be able to toast his toes by the fireside in perfect serenity.

For the other extreme we may go to another land, Macedonia. It has been civilized for more than two thousand years. It has been a Christian land since the days of Saint Paul, who wrote an epistle to the church of its capital city, the Thessalonians of his day, now the people of Thessalonika.

Aristotle was born in Macedonia, and so, alas, was Alexander the Great. On its field of Philippi Roman freedom went down, with Brutus and Cassius, before the imperialism of Caesar and Antony. And since the days of Alexander and Caesar, Macedonia has not known security or justice. It has known the march and countermarch of war. Romans, Greeks, Turks; Turks, Greeks, Romans, Bulgarians, Servians, Italians, and Greeks.

The soldier and the farmer, the two cannot occupy the same lands. The soldier stands for might and violence.

The farmer needs justice and security.

In the last month of May I took a long trip through Macedonia. I found good, honest farmers here and there, but not many. Their life was very different from farm life in America.

The Chinese have a proverb that "where armies quarter, thorns and thistles grow," and armies have quartered in Macedonia for twenty centuries. And for this reason there can be no good farms. The cattle are dwarfish and give but little milk. They are used, with the primitive European buffalo, as beasts of burden. Horses are few and small and mostly vicious. The sheep, the same breed they had in Judea in Bible times, are handsome and active, but carrying very little wool; a couple of pounds a year would be a big average.

There would be no use in improving the stock when the soldiers may come any minute. And between bands of soldiers come the bands of brigands. A brigand in Macedonia, as in Mexico, Korea, and China, is a farmer who has quit.

The farmer who is rich and prosperous to day may have to leave the country tomorrow on two hours' notice, by the light of his blazing house, with whatever he can carry on his back. This is what war means everywhere.

The farmer is in the best position to draw conclusions as to what war must mean in the decadence of the human race because he has studied the effects from breeding for fine qualities in both plant and animal life. When the farmer wishes to raise a good crop of corn he chooses the best ears for seed. When he wishes to improve his herds he selects the best individuals after thorough tests. Farmers use various methods of testing to find which cows yield the most milk, and from this they develop a milk-producing strain. The same thing is true in regard to chickens which may be bred to increase their egg production, or their size and quality for the table. In both of

these cases the scrubs and inferior individuals are killed off.

#### UNNATURAL SELECTION.

In war, however, the process is exactly reversed, and instead of a natural selection of the best, there is an unnatural selection of the worst. When nations decree that the best use for man is to make him "food for cannon," national glory is another name for national weakness. If in war the weakest and poorest were selected for military service, it might be a good process, but in war it is not from the weakest and least fit, but it is from the strongest and most able, that the men are selected to be slaughtered. The young, the courageous, the ambitious, the adventurous, and the virile are those who go to war; they are best able to achieve results in war, as elsewhere.

The slums do not furnish good men for warlike purposes, and the poorest parts of London, for example, do not contribute anything to the success of the Allies. The slum dwellers, descendants of the unfit of former days, are weak, undersized, prey to disease, unable to stand up under military hardship, and they are left at home; they furnish the population for the future.

Rome sent forth its best men for its wars, and it is calculated that out of every 100,000 men, 80,000 were slain in the wars, and out of 100,000 weaklings, from 90,000 to 95,000 were left at home to survive and to leave descendants.

So in Rome real men gave place to mere human beings. While there was a population it was made up of the sons of the weaklings and the cowards. The human harvest was bad because the best had been withdrawn from the nation's life, and the life-blood of the nation flows in only those who survive. Those who die without descendants can not affect the stream of heredity.

In other words, the fall of Rome was due to the decline in the quality of its population. The best had been

selected, not to survive, but to be killed in war.

Our own Civil War took a million men, men of the finest qualities. Many of them left no descendents. Those who were unfit in the North and South were left behind. While the new generation of men and women since the war have handled the nation's problems, it is safe to say that these problems have not been handled as ably as they would have been if the men of today stood shoulder to shoulder with the men who might have been.

Those states which lost the most and the best of their young blood,—Virginia and South Carolina,—will not recover for centuries.

#### THE CRETINS.

An extreme example is that of the Cretins in the valley of the Aosta in Northern Italy. Cretinism is a form of idiocy which is associated with goitre. When I visited Aosta in 1897 there were hundreds of these miserable creatures, with less intelligence than a goose and with less decency than a pig. They swarmed along the highways, begging for alms; they filled the charitable institutions.

The severe military selection which ruled that district for many generations took the strongest and healthiest of the peasants to the war and left the idiot and goitrous at home to carry on the affairs of life. Those who were afflicted with goitre were exempt from military service.

In 1910 I again visited Aosta. I did not see a single Cretin along the highways, and it was some time before I found anyone who knew the meaning of the word. The children in the orphan asylums were bright and alert, without goitre or cretinism. I inquired into the matter and found that about twenty years earlier Aosta had built an asylum for the aged poor. Into this asylum had been gathered the Cretins and goitrous. The men were segregated from the women in this asylum, and the inmates were not allowed to marry. The only Cretin

left was one old woman. I inquired about the Cretin children, and the Mother Superior said, "They don't come any more." In the same way feeble-mindedness could be done away with.

The weeding out of these undesirable and degenerate traits in the human harvest is quite as possible as the wiping out of undesirable strains in the farm plants and animals, but war has quite the opposite effect. The farmer, therefore, should decry war more than all other men. He knows what it means to breed from thoroughbreds, or to breed from scrubs.

#### THE FARMER NEEDS SECURITY.

For himself the farmer needs, most of all, security,—security to plant his crops and to be sure that they will have a chance to mature. Security can be had only with peace. There can be no abiding civilization without this security for property and for life, and there can be no abiding peace save in democracy. The farmer has no greater enemy than war, and no greater need than peace, and it is the highest duty of a democracy to furnish the peace which its inhabitants desire. In our governmental theory, the government exists for the benefit of the governed, and not for the aggrandizement of those in power.

Until the end of July Belgium felt as secure as the United States. Belgium was industrious, prosperous, and peaceloving. Now its farms and villages present black desolation. Everywhere in Europe before the present war broke out, the farmer was heavily taxed to pay the interest on the old war debts. All wars are fought on borrowed money, and no war ever fought has yet been paid for by any nation. On the top of all this comes the burden of the costliest and most horrible war that was ever fought.

The war of to-day really has the aim of keeping the farmer down. That is to say, it is the fight of pride and privilege against the common man, and represents the stand of im-

perialism against democracy. It is the expression of the theory of those who think that some men and some nations are good enough to rule over other men and other nations against their will. All wars have their origin in the wicked passions of men, but mainly in these two,—arrogance and greed. No nation can make money out of any war, and no nation that begins a war can tell how it will end. So long as those interested in the

manufacture of arms and armor plate, or interested in the loaning of money to maintain fighting are in control, just so long will there be war, and the farmer will pay for it. "Agriculture is the foundation of manufacture and commerce." The farmer, therefore, is at the basis of prosperity, and it is bad for the whole world when things go ill with the farmer.

"Fall to each what'er befall  
The farmer he must pay for all."

## POTATO PRODUCTION IN NEW YORK STATE

BY E. V. HARDENBURG

THE importance or extent of production of almost any farm crop for a given region is determined largely by a combination of factors such as climate, soil, topography, economy of production as influenced by competing crops and nearness to market. A study of these factors in so far as they bear upon the potato crop in New York State will serve to analyze our present status of production.

A rough survey of the state as a whole reveals five fairly well defined regions in which the potato crop forms a very important part of the rotation. These may be designated as: (1) the central southern tier of counties with Steuben County leading; (2) Monroe County with the central western New York counties bordering it on the south; (3) the St. Lawrence and Champlain Valley region in Franklin and Clinton counties respectively; (4) the Hudson River valley region consisting mainly of Washington and Rensselaer counties and (5) Long Island.

With the exception of the Hudson River district all of the above have been surveyed within the past two summers in order not only to determine the problems which confront the grower but also to find out the actual

cultural practices as factors influencing production. The work has already brought to light many things which heretofore have not been considered as worthy of serious thought.

It is only within the past three years that New York State has been superceded either in acreage or production by the states of Michigan, Wisconsin and Minnesota. Census figures for both 1899 and 1909 show a first rank for the Empire State in both acreage and production among the states of the Union and the following figures indicate that whereas the acreage has remained practically stationary, the yield has increased markedly.

TABLE I.

ACREAGE, PRODUCTION AND VALUE OF POTATOES IN NEW YORK 1899 AND 1909.

Year	Acreage	Production	Value
1899	395,640	38,060,471	15,019,135
1909	394,319	48,597,701	20,338,766

More bushels of potatoes\* are produced annually in New York State than of any other single crop and with the possible exception of apples, as a crop, ranks first in total value. As indicated in Fig. 1, there are now just twenty counties which produce over a million bushels including two

\*1910 Census.



which produce over three million and two which produce over two million bushels annually.

A question which very logically arises now is, what are the reasons for the location of the growing areas

The ideal potato soil is usually defined as a warm, free working loam of medium texture, relatively high in humus content.

A study of soil conditions in each of these five regions shows that with



FIG. 1. WHERE THE BULK OF NEW YORK'S POTATO CROP IS GROWN. FIGURES INDICATE PRODUCTION IN MILLION BUSHELS.

as indicated in Fig. 1 or which of the above determining factors are most active? This question can be only partially answered by saying that while one condition is influential for one section, it may not be at all important in another. Before deciding upon the advisability of growing potatoes in any given region it should be borne in mind that this is usually considered an intensive rather than extensive crop and one which may be expected to net a profitable yield in return for a relatively large expenditure for seed, fertilizer, cultivation, spraying, harvesting and marketing. It is equally true that when limiting factors such as soil, climate, topography and proximity to market are unfavorable just as great a loss may result.

the exception of the territory about Monroe County and the St. Lawrence and Champlain districts, the potato soils of the state are not especially high in fertility. The bulk of the Long Island crop is grown on the Norfolk series of soils, a series which being of a sandy nature is comparatively low in humus and potash. The soil on which most of the crop of the southern tier of counties is grown, is that, of the Volusia series which, though of a desirable texture is not high in natural fertility. The crops grown on the Vergennes and Mountain soils in Franklin and Clinton Counties show that these are not limiting factors of production.

It is generally recognized that climate is more influential on produc-

tion than soil for the reason that yields obtained in the more northerly latitudes of Maine, England and Scot-

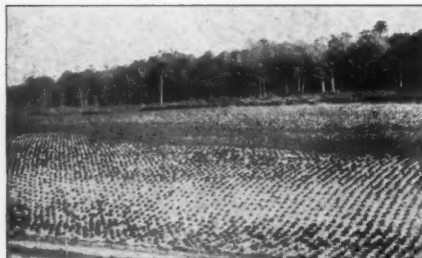


FIG. II. THE CHECK ROW SYSTEM OF HILLSIDE POTATO CULTURE IN STEUBEN CO.

land exceed our own. The normal yield of potatoes is cut down almost in direct proportion to the number of days of summer temperature during which the temperature goes above 85° F. Table II shows a comparison of the mean temperature in New York, Maine and Scotland for the months of June, July and August.

TABLE II.  
MEAN TEMPERATURE FOR JUNE, JULY  
AND AUGUST, 1909.

Region	June	July	Aug.	Yield per Acre
New York...	65.0	70.0	67.0	125
Maine.....	61.9	66.9	65.0	210
Scotland...	55.0	58.0	58.0	350

In practically no section of the state is the growing season of the potato crop cut short by frost except in Franklin and Clinton Counties. Here, though the growing season is of normal length, 150 days, conditions are such that the tops remain green until killed by freezing temperatures. Though yield may be slightly lessened on this account, the average for this section compares favorably with that of the state and that portion of the crop so harvested in a slightly immature condition is thought to be more vigorous when used for seed. Though the average length of growing season for the Steuben County section is given as 150 days, the actual number

of days between planting and digging dates was found to be only 135. The 200 days of growing season for Long Island is the longest of any of the five regions.

Rainfall is a limiting factor to production in New York State occasionally in certain sections. It so happens that on the lightest soils, least capable of conserving moisture, such as those of Long Island, we find both the greatest average annual and growing season precipitation. It is thought that varieties of the Rural type, those having blue sprouts, are better adapted to withstand drought than those of the Green Mountain or white sprout type. This may account in part for the predominance of the former type in the sections of western New York where rainfall is somewhat lower. Table III\* shows the average number of days of growing season, normal annual and seasonal precipitation for each of the main potato regions here treated.

In general it cannot be said that any one of these three climatic factors seriously handicap production for the state as a whole although naturally our average yield must be somewhat lower than that of Maine and Great Britain, Ireland and Germany.

With the exception of some of the southern tier counties, of which Steuben is typical, the topography of the land is level enough to allow of intensive methods of cultivation and the employment of special machinery. Planters and diggers are used quite generally except in limited areas in the St. Lawrence, Champlain and Hudson Valleys where stony land makes it impractical. On the hill farms of Steuben county a digger of light draught, known as the Ross, is quite universally used instead of the more expensive and heavier type of chain elevator diggers. This consists essentially of a rotary reel which kicks the potatoes at right angles to the

\*See November CORNELL COUNTRYMAN 1914. Climate of N. Y. in Relation to Agr.

rows. Much hand planting is necessary here also owing to the necessity of planting in checks to facilitate

leading potato counties is approximately 10 to 15, it is quite common to find fields of 25 to 30 acres in the bet-

TABLE III  
Days of Growing Season and Precipitation in inches

Region.	Date of last Spring Frost.	Date of last Fall Frost.	Average No. Days Growing Season.	Normal Annual Precipitation.	Normal Growing Season Precipitation.
Steuben Co. ....	May 10	Oct. 5	150	30-35	16-18
Monroe Co. ....	May 1	Oct. 15	165	30-35	14-16
Washington Co. -	May 5-10	Oct. 1	150	35-40	16-18
Franklin & Clinton Co. ....	May 10	Oct. 1-10	150	30-40	14-18
Suffolk Co. ....	April 25	Oct. 1-25	200	40-45	16-20

cross cultivation and weed control. Where land is relatively cheap and labor scarce as it is in this section it is considered better economy to employ more machine and horse labor at the expense of more land and less yield. Figure II shows a steep hillside planted to potatoes in Steuben County by the check row system.

With this exception most of the crop of the state is planted in drills necessitating cultivation one way only.

While the average acreage in the

ter sections such as Suffolk County, Long Island. Figure III besides showing the vast extent of planting in such sections also shows one means of economy in production. Witness the spraying of seven rows with a single sweep of the sprayer.

Crops competing with potatoes serve as a natural check upon production in sections where conditions are otherwise favorable. For this reason relatively few are produced along the shore of Lake Ontario where fruit

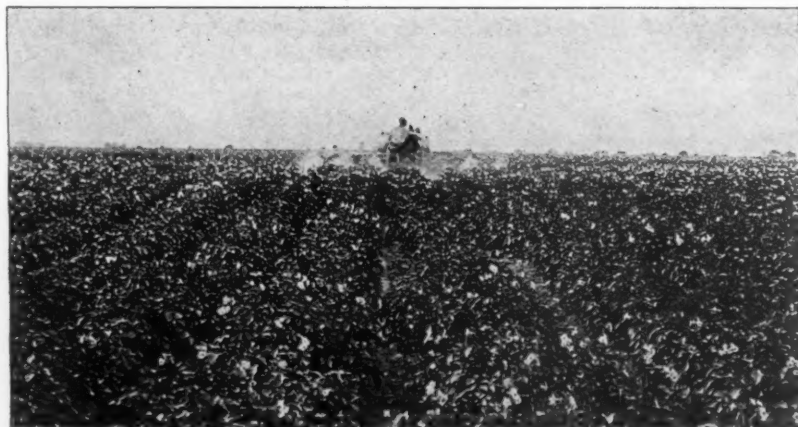


FIG. III. A 30 ACRE FIELD IN SUFFOLK COUNTY. SPRAYING OF SEVEN ROWS AT A TIME INDICATES THE ECONOMY OF PRODUCTION POSSIBLE.

growing is extensive and commands much time during the harvest season. For a similar reason, potato production is not prominent in the larger dairy sections of the state where much time would be required for harvest during corn cutting time. Again where retail milk production is possible it should be a more profitable business near the larger cities.

Although potatoes are not considered perishable for shipment, owing to bulkiness, the cost of transportation is often no small item in the cost of marketing. This is especially true of the corn crop grown in Franklin and Clinton Counties. In spite of this, however, environmental conditions render this section one of the most favorable in the state.

#### MEANS OF IMPROVEMENT.

Much is prescribed in the Agricultural press of late for a change in method of procedure. To the writer, it seems that the question is not so much that of when, and how to plant, cultivate, fertilize, etc., as *how much* to plant, cultivate, fertilize and spray. A study of the records of over 1300 potato growing farms of New York State shows that with the exception of a number of farms in Suffolk County, too little seed is planted per acre, too little fertilizer applied and too little spraying done. In general the yield has been directly proportional to the extent of each of these practices. It is true that there is a point of marginal utility for each of these factors, but that point is seldom reached. Just

as in any enterprise one reaps as he sows, it is equally true that those growers who get the lowest average price for their potato crop, spend, and can only afford to spend less in the cost of production. Owing in a large part to the lesser demand for a high grade product by local buyers and control of the marketing by those buyers of the greater part of the crop grown outside of Long Island, the farmers in these sections are receiving a considerably lower price for their potatoes than the growers on Long Island. In the latter territory, the cost of production is much higher owing to heavy expenditure in seed brought from Maine, in large amounts of fertilizer, in higher land value and in frequent spraying and cultivation. But yield and prices are correspondingly higher because of a better established market, a reputation for quality, a better graded product and a closer study of methods of production.

The only potato trucking section of any considerable extent is that of Nassau County, Long Island, from which the crop is hauled to the Wallabout Markets of Brooklyn on special wagons or motor trucks often as far as twenty five to thirty-five miles. In this case the crop is sorted directly from the field into bushel hampers and sold direct both to retailers and wholesalers. In this way much of the middleman profit is eliminated. Fig. IV is a scene in the Wallabout Market of Brooklyn, the largest potato trucker's market in the state.

(Continued on page 678.)



FIG. IV. A SCENE IN THE WALLABOUT MARKET, BROOKLYN, THE LARGEST POTATO TRUCKER'S MARKET IN THE STATE.

# THE DISTRIBUTION OF EGG PRODUCTION

BY JAMES E. RICE

Professor of Poultry Husbandry, in collaboration with O. B. Kent, '12, Instructor in Poultry Husbandry, and F. D. Brooks, '17.

New York State College of Agriculture at Cornell University

(Continued from the April Number)

## PART III

### *What is the Most Reliable Method of Determining the Relative Laying Capacity of Fowls?*

#### 4. THE FIRST CALENDAR YEAR RECORD OF EGG PRODUCTION.

One full calendar year usually enables a fowl to do justice to her ability as a layer provided she gets started sufficiently early to make a 12 months laying year, before her production is interfered with or stopped by fall and winter climatic conditions. Much of course, will depend upon when the calendar year starts and stops and at how early an age a fowl commences to lay as to whether her first year is to be a reasonably correct gauge of her laying ability. The fact that cold fall weather in New York State and the molting tendency affects all fowls adversely and tends to check their production apparently is the cause for some of the less productive and later-to-commence-to-lay fowls to be somewhat handicapped the first year. If one will study the daily production of fowls of the same age that begin to lay earliest, he will find that generally they are the fowls that also lay latest the following fall and that unfavorable weather and the molting tendency eventually stops production of even the best ones in November or December.

#### 5. THE RECORD OF EGG PRODUCTION FOR 12 MONTHS AFTER THE FIRST EGG IS LAID.

An examination of Figure 2\* will show that only in a very few instances did a fowl extend her laying year beyond the calendar year. (October 1st or November 1st, following.) In such

instances, a practical breeder would be justified in giving such hens the benefit of the few extra eggs that they laid in the "laying year" as compared to the "calendar year." The same would be true if we extend the laying year forward in the case of the individuals that may have begun their laying before the calendar year, October 1st or November 1st, begun. In the main, however, it would be wise to give every hen a 12 months period of laying from the date which she laid her first egg. In many instances such a course would extend the 12 months laying record to include one-half or more of the second calendar year record, which would, in effect, be an unfair advantage or disadvantage to the hens, depending upon when she began and ended her laying year record. For example, hens commencing to lay as late as February, March or April, as many do, would have their 12 months laying year and extend to the same date the following calendar year from the date when the first egg was laid. This would make as many different laying year records to consider as there are fowls to commence to lay on different dates and would result in confusion in undertaking to compare individual records and would not be likely to give as accurate a means of estimating a hen's laying capacity as it would be to use the calendar year commencing with the season when pullets normally commence to lay in the fall and ending at approximately the same time when hens cease to lay at the close of their laying year. This would be done with the understanding that the individuals whose record of laying is so extended that a 12 months calendar

\*See CORNELL COUNTRYMAN, April, 1915, pages 567-569.



year would modify slightly her full laying year. It must be seen, therefore, that the possible injustice of a calendar year record of laying would be likely to affect only the higher producing fowls, which should be given full advantage of a 12 months laying year from the day the first egg was laid.

#### 6. THE SECOND CALENDAR YEAR PRODUCTION.

Many high producing hens, notwithstanding the general law that the best hens usually make their highest records earlier in life, may be a little slow in starting to lay, or do not stress their production as heavily during the year and consequently make their best records the second year. Some of the high record hens of the first year, either because they lack the vitality or inherit a short distance laying habit, fail to maintain their early performance and make medium or low records the second year. A better estimate of these two types of hens is obtained if we use their 2 year or longer records. The second year record frequently brings to light some very high producing fowls that otherwise might be overlooked.

#### 7. FIRST AND SECOND CALENDAR YEAR EGG PRODUCTION.

The yearly production record for three years shows that in most instances the hens that lay above the average production for three years have made their highest yearly production in either the first or second year. When hens have made their highest yields after the second year, the relative production in nearly all instances has been low to medium. Hence, the average production for two years appears to be more reliable than either the first or second year alone. The two year record appears to smooth out any extremes or exceptions in either year and gives a reasonably safe guide for estimating a hen's laying capabilities. A combination of especially practical value to the commercial breeding requirements

is to use the total production for the first 18 months after the first egg is laid, or the first 18 calendar year months from October 1st to April 1st which includes the entire year and approximately 6 months fall and winter production of the second season. This enables the breeder to select and use his best producing individuals when they are two years old without waiting until they are three years old in order to get two complete laying year records.

Figures 3 and 4 and Table VII-F\* show how valuable the combined first and second year method is in estimating productive value of individuals. The difference between the average production for three years of the upper and lower  $\frac{1}{3}$  based on two years production is 151.00 against 90.24, or a difference of 60.76.

#### 8. THE THIRD CALENDAR YEAR EGG PRODUCTION.

If the purpose in selection according to egg production is to discover the fowls that make the highest average sustained yield with the object in view of emphasizing longevity and the breeding of long distance records the third year is valuable. Many of the best first year producers decline in the second year and come up in the third year, with a larger egg yield than they made in the second year. It is of the utmost importance that these individuals be discovered. They show by their sustained high yield in the third year that they possess the inherited tendency of high fecundity and also that they have strong vitality to withstand the heavy strain of high egg production. The third year highest record alone, however, apparently, does not indicate the highest long distance producers quite as accurately as the first two years combined or the three years combined. The contrast between the highest  $\frac{1}{3}$  and the lowest  $\frac{1}{3}$  based on first and second year production as compared to the average based on third year production is as follows: 151.00 as against 90.24, or

\*See CORNELL COUNTRYMAN, April, 1915, pages 567-569.

60.76; 149.06 as against 92.41, or 56.65.

#### 9. THE THREE YEARS EGG PRODUCTION COMBINED.

The massing together of three years production gives what would appear from these dates a more reliable method of selecting fowls, determining their egg laying capacity than any shorter time method. A careful study of the ratings of the 63 hens shown in Figures 3 and 4 where the lines connecting the legband numbers of the hens clearly demonstrates the fact that

production by eggs and distance by feet. We may say, if we choose to use the terms for the sake of illustration, that a fowl is a low, medium or high or very high or exceptionally high producer, or we may use any other appropriate adjectives in our attempt to distinguish between the productive value of individuals, the same as we may say that a building is low, medium or high or very high or exceptionally high, etc. One method of description is about as definite as the other. Extreme limits of egg production and of height of buildings

#### THE INTENSITY OF EGG PRODUCTION AS AN INDICATION OF PROLIFICACY.

Fifteen Single Comb White Leghorns at Cornell University selected from Sixty-three whose Records are known for three years or more.

Leg Band No.	1st year		2nd year		3rd year		Total Eggs Laid in 3 years
	No. Days Continuous Laying	No. Eggs Laid	No. Days Continuous Laying	No. Eggs Laid	No. Days Continuous Laying	No. Eggs Laid	
5697	15	243	5	162	6	146	551
7518	5	221	8	163	4	109	493
7880	5	151	28	145	12	159	459
5675	3	142	5	136	6	155	439
7700	3	152	5	135	6	141	428
5703	5	151	12	142	12	133	426
7675	6	140	7	149	9	131	420
5633	4	159	4	114	3	133	406
7897	5	137	11	424	6	139	400
7455	8	138	9	107	13	105	350
7469	8	118	11	104	6	124	346
7668	6	106	21	101	12	114	321
7860	7	106	7	72	6	58	236
7504	6	83	8	86	6	57	226
7658	2	45	6	53	2	65	163

the most consistently high, medium or low producing birds are found by tracing back the records for the average of three years combined. By comparing Figure 3 in which the three groups based on first year records are compared with Figure 4 in which 3 groups based on 3 year combined records are compared, it will be seen that there are fewest instances where hens rated as high, medium, or low by one method of rating are not found in the same or nearby group in the other seven methods.

Measuring and defining relative egg production is much like measuring and defining distances. We measure

are increasing each year as man obtains better mastery of the science and the art of poultry husbandry and architecture and engineering. What constitutes a high egg yield or a high building will depend upon the particular standard of measurement that we have in mind. The meaning that we convey in our descriptive terms will depend upon whether we have in view exceptional individuals that have been carefully selected and cared for or the average of a large or small flock or farm flock, or whether we refer to the first or the second or the third or the fourth or any combination of years' production, or whether we have in

mind only individual rather than flock production, or, to make our comparison clear, in the case of buildings we might have a sky scraper in a metropolis or the highest building in a small city, country town or on a farm. The laying records of three different groups of Leghorn fowls, representing 270 individuals (Flocks 169, 63 and 38) for three years, might perhaps justify our assuming to suggest the number of eggs that should be laid per hen per year to fit suggested descriptive terms. Instead of assuming the responsibility for presuming to

lay. The replies were given without any of the persons having an opportunity to confer with one another or with others or to consult records of production. The test was made with the idea of ascertaining how closely persons' opinions agree as to the meaning of certain terms when applied to egg production under the conditions named. It does not follow from this that a careful mathematical study of the production of large numbers of fowls would necessarily give results that would coincide with the yields quoted in connection with the de-

A SYMPOSIUM OF GUESSES AS TO A GOOD AVERAGE FLOCK EGG PRODUCTION PER HEN PER YEAR TO FIT DESCRIPTIVE TERMS INDICATING VARIOUS GRADES OF PRODUCTION.

	1	2	3	4	5	6	7	8	9	10	11	12	13	Total	Av.
Phenomenally															
Low...	50	25	25	25	20	30	20	20	40	25	70	20	50	420	32.3
Exceptionally															
Low...	60	50	60	40	40	40	30	40	60	40	75	30	60	625	48.
Very Low...	70	75	80	50	60	50	40	60	75	60	80	40	75	815	62.7
Low.....	100	100	100	95	80	70	50	80	90	80	90	60	100	1095	84.2
Fair.....	125	115	125	115	100	85	60	95	110	105	100	100	115	1350	103.8
Medium...	150	125	150	125	120	100	75	110	125	125	110	115	125	1555	119.6
Good.....	175	135	165	135	140	130	100	125	140	130	125	150	140	1790	137.7
High.....	200	150	180	150	160	160	125	145	160	140	140	180	150	2040	156.9
Very High..	230	175	200	160	180	180	160	165	180	160	150	200	160	2300	176.9
Exceptionally															
High...	250	200	225	180	200	190	200	180	200	170	155	215	175	2540	195.4
Phenomenally															
High...	275	225	240	200	220	200	225	200	225	180	160	230	200	2780	213.8
Totals ..	1685	1375	1550	1275	1320	1235	1085	1220	1405	1215	1255	1340	1350	17310	

decide upon so variable a factor as egg production and take the chances of not having it; fit the opinions and meet the approval of any considerable number of poultrymen, the result of a survey of the opinions of persons is submitted. The descriptive terms as here quoted were submitted to persons, with the request that they name the number of eggs that a commercial flock of Leghorn pullets, kept under approved modern methods for commercial egg production, should lay. It was urged that each person try and express in his figures the number of eggs which the terms indicated to him a flock of fowls should be expected to

scriptive terms.

If one were to consider the production of individuals instead of flock averages, it would be necessary to increase the number of eggs to fit the same terms used in the tabulation above. So, too, it would be necessary to reduce the estimated number of eggs to fit the terms if one were considering the second year production instead of the first, or the third instead of the second, and so on, and a different set of estimates would be required to fit the terms if we were dealing with breeds of poultry having recognized higher or lower productive capacity than the Leghorns.

10. THE INTENSITY OF EGG PRODUCTION FOR A SHORT PERIOD OF TIME.

The opinion has been advanced that the intensity of production; that is, the shorter the time in which fowls lay a given number of eggs or the more eggs they lay within a given short period of time, is the best method of determining their laying capacity.

By arranging the leg band numbers of the sixty-three hens under consideration in the order from highest to lowest in egg yield, as shown by each of the eight methods of measuring their performance which has been suggested, one may follow the records of each fowl through the table by drawing a line to connect the leg band number of each hen wherever it is found in the rating column. Figures 3 and 4 show graphically how two of the eight methods of rating may be compared with each of the other methods of rating.

These tabulations show, in the case of the sixty-three fowls under consideration, that the records for the first two years and for three years combined, appear to be the most reliable of the eight methods studied as indicating the productivity of Leghorns.

These and other data would indicate the wisdom of establishing at least four facts before assuming to compare the production of fowls. These four facts are first, the date the individual was hatched; second, the age when she laid her first egg; third, the number of eggs laid within a fixed time; and fourth, the environmental conditions surrounding the flock. The data would appear to show that if these four facts are ascertained one may secure a more reliable index of a hen's productive power than he would be likely to secure if he should use, as his standard of measurement, any fixed date during which the egg production of a flock might be compared without taking into considera-

tion the date of hatching and the date the first egg was laid.

It would appear, also from the data that the longer the period of laying one takes in comparing fowls the more reliable will be the method of determining a hen's laying capacity. However, the value of the laying capacity of fowls as shown by any of the known methods of rating as an index of her breeding value can only be proven by a breeding test. The best we can do, with our present method of determining the productive capacity of birds, is to assume that the high laying capacity is the result of inheritance of high fecundity factors, coupled with the inheritance of strong constitutional vigor and that both of these factors may be influenced by environmental conditions that surround the breeding flock or their parents.

A summary of eight methods of comparing the laying capacity of hens for three years shows that the following factors are to be considered.

1st, the age at which pullets lay their first egg;

2nd, the production of pullets to March 1st;

3rd, the production of pullets to 10 months of age;

4th, the first calendar year egg production;

5th, the egg production for 12 months after the first egg is laid;

6th, the second calendar year egg production;

7th, the first and second calendar year egg production, or the average per year for two years;

8th, the third calendar year egg production;

9th, the three years egg production combined, or the average per year for three years, etc., for succeeding years;

10th, the intensity of egg production for a short period of one or more weeks at any time of the year.

# THE HISTORY OF THE HOLSTEIN IN NEW YORK STATE

BY EDWARD A. POWELL

Director of the New York State Breeders' Association and one of the pioneers in Holstein work.

New York State is the foster home of the Holstein-Friesian breed, Holland the place of its nativity, and Massachusetts the place of its landing and first footing on American soil.

New York soon became its foster home, the place of its development, its growth and reputation in America and for the past 35 years has been and still is the center of breeding interest in the black and white breed.

THERE have been many excellent breeders in New York State, too many to mention in a short article like the present, but a sketch of the breed can hardly be written without mentioning the names of a few leading breeders. In 1869 Hon. Garret S. Miller made his first importation of three grand cows, and a bull. These probably did more for the reputation of the breed at that period than any other herd, because he was the first to keep and publish the yearly, and for a series of years, accurate records of each cow.

His cow, Dowager, was recognized as the first to make an authentic record of 12,681½ lbs. of milk in a year. This was soon surpassed by Crown Princess, of the same herd, which gave 14,027 lbs. This record was surpassed by Maid of Twisk with over 15,000, a famous cow owned by the Unadilla Valley Association. Next Lady Clifden came into prominence by increasing the last mentioned yield. Aegis followed this with 16,823 lbs.

Aaggie with 18,004 lbs., Aaggie 2d, 20,763 lbs., Echo over 23,000 lbs. Clothilde 26,021 lbs., and Pietertje 2d, 30,338 lbs. The above from memory, but which I think are about correct, including the world's record cows in the order named, up to the great record made by Pietertje 2d, and which has only been equalled by one cow to date, and that very recently. The above are records of mature cows, each being the world's record when made.

In the younger classes were

Netherland Duchess 22 mo., 12,200 lbs.  
Netherland Queen 2 yrs. Jr., 13,574 "  
Aaggie Constance 2 yrs. Jr., 16,761 "  
Aaggie 2d, 2 yrs. 17,746 lbs.  
Albino 2d, 2 yrs. Jr., 18,484 lbs.

In the three year class I do not recall all the largest, but Clothilde gave as a 3 year Jr., 15,622 lbs., the world's record at that time, and Clothilde 4th as a 3 year Jr., 16,457 lbs. In the 4 year old class the leaders of their time was Clothilde 17,570 lbs., Netherland Belle 19,516 lbs., Clothilde 2d 23,602 lbs., and Millas Pieterje (or Pietertje 3d) 24,126 lbs.

These are the leading world's milk records made previous to 1891. All but one of them were made in New York State. Many large records have since been made by numerous breeders, too many to admit of individual mention here, but these of later date are generally fresh in the memory of the readers.

The breeders of New York State were the first to demonstrate to the world by both public and A.R. records that the Holstein breed was not only superior for milk, but also for butter.

Among the leading breeders of the State at that early period were Hon. Garret S. Miller, the Unadilla Valley Breeders' Association, Smiths & Powell Co., Henry Stevens & Sons, T. G. Yoemans & Sons, J. B. Butcher, F. C. Stevens, and many others, who contributed towards the development and popularization of the breed.

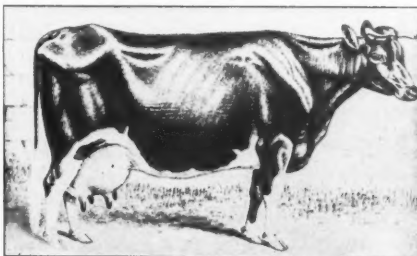
When the fact was first promulgated that the Holsteins were a butter breed, the claim was received as a ludicrous joke, outside of the small circle who had



been convinced by actual tests made in their own herds. Even at this early date there were many weekly records of 25 lbs. up to 33 lbs. Mr. S. Hoxie's system of Advanced Registry, adopted by the Holstein-Friesian Association, when that was organized by the union of the Holstein and Dutch-Friesian Associations, did much to encourage testing and convince the public of the accuracy of the records that were accepted and reported by the Association.

Mr. Hoxie is entitled to the thanks of all breeders for his persistent efforts in securing the adoption of the Advanced Registry system. The general public, and those who did not wish to know the truth were still to be convinced, and challenged public trials. The first good opportunity came at the New York Dairy Show at Madison Square Garden in 1887. It was claimed that 400 cows of various breeds and ages had been entered. \*The Lakeside Herd entered Clothilde, 6 years, and Clothilde 4th, her 3 year old daughter, in the butter test, although with no idea of winning. This test resulted in a great victory for the Black and Whites. Clothilde won first, surpassing all cows of all ages and breeds excepting her daughter, by 26%, and the daughter exceeded all cows of all ages excepting her dam, by 6%.

There was a good joke attached to this victory. The President of the Jersey Cattle Club offered as a special prize, a beautiful cup. So sure was he that this would be won by a Jersey,



ECHO

that in advance, he had engraved thereon a beautiful Jersey cow, and the cup was kept under glass for exhibition at the entrance to the show. That cup is the most highly valued trophy ever won by the Lakeside Herd.

Another incident in connection with this show, gave the breeders of Holstein cattle courage and confidence. It had been loudly acclaimed, both in private and public, that Holstein butter lacked flavor and grain, and even if the amount produced was large, the quality would be inferior. Several prizes were offered at this show for butter, to be judged for its quality, flavor and grain. An expert was brought from Boston to do the judging. Mr. Isaac Otis, a veteran breeder of this State, was appointed Superintendent of this Department. A large number of samples in various forms were entered for these prizes, and a room was assigned for this exhibit. After the assembling of these exhibits, Mr. Otis went over every package, removed every label or mark of any kind that would designate the maker, or the breed from which the sample was made. He then called in the expert, locked the door, and let him proceed with his task. After the awards were made, Mr. Otis invited the expert to lunch where the qualities of the different breeds were discussed. The judge made the statement to the different parties at the table, that it was possible that the Holsteins might make a large amount of butter, but the quality would be



AGGIE 2ND

\*The Lakeside Herd of Syracuse is owned by Mr. Powell.

inferior, the grain bad, and it never could be considered first class. This gentleman was not aware at that time that he had just given first and second prizes in some of the classes, where there was large competition by the various breeds, to Holstein butter. Since this occurrence very little has been said regarding the quality of butter made from this breed.

Another opportunity came when the Pan American at Buffalo, offered \$1,000 in three prizes, for the best butter records made on the ground. Various entries were made, and the exhibits were on the grounds, but for some reason, all but the Holstein-Friesians were withdrawn. The Lakeside Herd again won 1st and 2d prizes of \$900.

The next favorable opportunity came when the New York State Fair offered prizes for herds or groups of cows, (if I remember correctly there were to be four or five from each herd) and the prizes were for both quantity and quality, Henry Stevens & Sons won the 1st prize over the Jersey and other breeds.

By this time the public began to be convinced of the superiority of the Holland cow for butter production.

The first Holstein Herd Book was published in 1872. The first Dutch Friesian in 1880.

In 1880 the place of holding the Annual Meeting of the Association was changed from Boston to Syracuse,

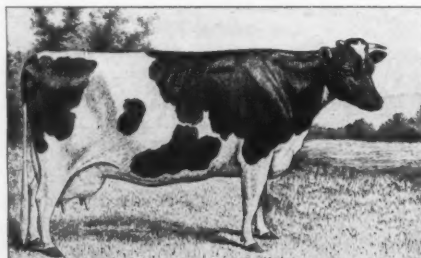
a charter was asked for from the State of New York and granted, under which the annual meeting must be held in this State. With few exceptions these meetings have been held in Syracuse, until by a recent amendment, the Association can hold every alternate meeting in the West. Syracuse will have the next meeting in June.

On April 16th, 1885, at Buffalo, the Holstein and Dutch-Friesian Associations united and formed the Holstein-Friesian Association of America, since which time this has been the authentic name, although many still use the name Holstein for brevity.

For probably 30 years New York has had a much larger number of members in the Association, has owned a much greater number of cattle and made many more A.R.O. records.

From the Annual Report of the Secretary of the Association, and the Superintendent of Advanced Registry, I understand that New York has had for many years, about 40% or more of the total membership of the Association, and usually a similar per cent of A.R.O. records.

It will thus be seen that New York is, and has been for 36 years, the center of the Holstein-Friesian breeding interest in America, and is justly entitled to be called the Foster Home of the breed.



NETHERLAND DUCHESS

## THE COUNTRY HOME

BY D. S. HATCH, '15

(EDITOR'S NOTE.—This address was awarded first prize at the Sixth Annual Eastman Stage held Feb. 12.)

I COME to talk with you tonight about a very familiar subject, the farmhouse and home as it stands back there on the country road. We know country homes in different places, and those of us who come from the open country know that there is among many farmers this common feeling, that the farm home is the non-practical end of the farming project, that while it pays to have good horses, tools, and machinery for the farm, for the home anything much more than just a place to sleep in short nights does not pay. The house belongs to the woman anyway, let her take care of it. The man has all out-of-doors to look after and be interested in.

Just by way of illustration: against that common feeling let me tell you of a real country home, right over here within twenty-five miles of this platform, where the farmer feels and knows from results that a real home on the farm pays. But before I picture that home to you, let me emphasize that there is no show of wealth about it; that a home like it is within the reach of the common farmer; that it looks, as you drive by, the typical old-fashioned one and one-half story farmhouse. One of the reasons why this home is different from most country homes is the matter of re-arrangement, little changes to make the work easier, that the farmer has brought about at the suggestion of his wife. The *Rural New Yorker* recently gave this woman a good sum of money for a two-part illustrated description entitled "How we re-arranged the old farmhouse."

Her husband purchased for her a little gas engine. This little engine is easily carried out-of-doors where it saws wood and turns different machines for the farmer himself, but it

belongs in the home—it belongs to his wife. She learned to start it and she uses it whenever she needs to. This little engine pumps water from two cisterns in the cellar to an iron tank in the garret, and pipes leading from that tank and from the kitchen range make possible in that home a bath room well equipped. These pipes lead also to the washing machine, and the little engine runs the washing machine and the wringer, making it possible for that woman to wash there as long as she needs to by simply shifting levers, without muscular effort and without lugging a drop of water. The little engine also runs the mangle for ironing; it runs the separator, the churn, and the vacuum cleaner. The vacuum cleaner when purchased had a suction hose only fifteen feet long. For this the lady substituted a piece of common garden hose fifty feet long, now making it possible for her to reach any corner of the lower or upper floors—to clean that whole house in less than two hours. She washes her dishes in a dish washing machine.

In these, and other ways, relieved of the usual drudgery of the farmer's wife, this wife and mother has been able to make there in all its departments a real country home—a home practical, practical in the first place because it has done away with that indoor labor problem. What need a woman with a home equipped like that worry if hired girls are as scarce as "hens' teeth?"—hard to find and expensive to keep?

Homes like this are practical also because they become a factor in the outdoor labor problem, and you men know the size of that problem at the present time. Things are not as they used to be. Now the hired man has to work much of the time out there in

the field alone. Large numbers of hands used to be employed on the farm. Many of you men can never forget the march and music of the swinging scythes in the hay-field, periodically sweetened by the ring of the whetstone, the thud of the flails on the barn floor. There was always company there. Now the hired man feels the isolation of the country. The farm home is his home as long as he works there, and it is often the cheer and business atmosphere of the well-equipped, well-regulated home that is necessary to make him contented.

Again, the real country home is practical because it goes so far toward taking care of that much-talked-of problem of the country boy and the even more neglected problem, that of the country girl. The boy from that home I have described to you has just been graduated from an agricultural college and he is going back immediately with his young college-bred wife, and they are looking forward with pleasure to spending their lives there together on the old farm, in the old, well-equipped farm home. And that farmer will tell you that no keener enjoyment has ever come into his life than to sit there so many an evening, as he has, and see his young people and the young people from the countryside around and from the village, enjoying themselves together in his farm home.

A good country home is the only thing that can enable the country girl to choose her associates. The country boy, because he is a boy, enjoys an independence that the girl cannot have. He can hitch up any dark night, as we have done so many times, and drive as far as he will to find associates—or a single associate according to liking. With the girl not so. She cannot go, and here is the important point; there is often nothing about that home of hers that tends at all to attract associates of the right kind to her. She cannot go, she cannot entertain in her home. Back there on the country road, lonely, she exists.

And these conditions account for

the results of that survey that has been taken in one of our counties. One thousand letters were sent out, one to every young woman in that county, asking these questions; "If not married, do you want a farmer for a husband? Please give reasons." Three-fourths of the girls answered "No", and the common reason given was: "Because we know how our mothers have slaved from dawn and before dawn until dark and into the night, and because of the barrenness of country-home life."

And this brings us to another kindred reason why the real country home most richly pays. Have you seen that picture—Michael Flannigan's home? the walls bare, the windows patched with paper, on the floor five or six small, hungry children, and in the center of the room his wife breaking her back over the washtub—Michael Flannigan's wife—And the title of that picture is "All for the love of Mike."

A little humor in the expression there, but no humor in the fact. Just as pitiful is more than one case I know, where for the love of a man a girl has accepted the sentence of becoming a farmer's wife, the life-sentence to the back-kitchen—the sweatshop of the farm. Back there in the upper Hudson Valley, to the east among the lower foothills of the Green Mountains, on a farm I grew up. And at the same time, on another farm, two girls grew. We used to play together and talk together, and I remember we used to wonder just how things would turn out when we grew older. Four years ago one of those girls married an ambitious young farmer. He took her to a typical large farm, into a large farm house, with hired men to feed, lots of work, and the usual lack of equipment, and he is making good financially. But one day last fall I was taking some horses down to the horse show at the country fair and I saw driving down the road toward me what looked like an old woman on a milk wagon with a small child by her side. I had almost passed when I

*(Continued on page 678.)*

## COMBINING FARMS

Results of the Combination of General and Dairy  
Types in New York State

BY R. H. DENMAN

WHEN two or more farms are combined and brought under the direct management of one farmer, there are important results. Fewer men and horses and less machinery produce the same amount of products. A greater portion of these products go to the city. The farmer makes a greater profit.

In this article are considered ten farm combinations or groups of this kind. Each of these groups comprises what was formerly two or more separate farms. "Farm Group," as here used, may be defined as those farms which are combined and farmed by one farmer with one farmstead as the chief center of operations.

The object in studying these cases of farm combination is to learn what gain in efficiency in the use of power and equipment is secured by combining. That is, to learn how much more work a man, a horse, or a machine does.

The general conditions on these farm groups may be briefly stated as follows: the farmer now in charge was, before combination, in charge of one of the farms of the group. He secured the annexed farm or farms either by purchase or money rent. He now farms the two, three or four, as the case may be, with only a little increase in labor and equipment above what he had on his first farm.

### THE STUDY OF EFFICIENCY.

The accompanying tables give an analysis of the efficiency of men, horses, and machinery before and after combination.

In working up the material, due allowance was made for changes in the intensiveness of the farming. If hay replaced potatoes, adjustment was made to compensate for it. This was

done by the method of "work units."

A *work unit* is the time required to raise and harvest an acre of hay, cut once. An acre of small grain requires two work units; an acre of potatoes twelve work units.\* All comparisons, therefore, are made on the basis of "work size" instead of acre size. The acre size of the farm is the same in all cases, but the work size varies, being sometimes less and sometimes greater after combination. Tables I and II, column 4, show this, work size being shown by the number of work units, the latter being computed from the kind and area of crops and the kind and number of productive animals.

To determine the relative efficiency of the two systems of management, we must know the number of units of work to be done in each case and the labor which is employed to do it; we must know the number of units of horse work and the number of horses used, and we must know the comparative amount of work that a given investment in machinery accomplishes.

Let us study the efficiency of farm group III, as given in the tables. In column 3 of Table I we find that 4.75 men† were employed in farming the two farms when separate, but only 2.5 men were required after combination.

Although the work size of the group (column 4) decreased slightly, the total work units per man increased, which is the essential point. The same gain is shown in columns 7 and 8 in reference to crops alone. Turning to horse efficiency, Table II, we

\*For a fairly complete list of enterprises and their corresponding man and horse work units, see "Farm Management," by G. F. Warren, pp. 350-354.

†Man equivalent is determined by dividing the total months of labor by 12.



TABLE I.—MAN EFFICIENCY.

	1	2	3	4	5	6	7	8	9
	Farm Group	How Worked	Man Equiva- lent	Total Work Units	Total Work Units Per Man	Increase	Crop Work Units	Crop Work Units Per Man	In- crease
I	125 acres and 116 acres	Separately	7.16	973	136		469	65	
		Combined	6.00	935	156	15%	469	78	20%
II	62.5 acres and 53 acres	Separately	2.90	437	151		217	75	
		Combined	1.80	378	210	39%	167	93	24%
III	160 acres and 117 acres	Separately	4.75	887	186		466	98	
		Combined	2.50	624	250	34%	404	162	65%
IV	130 acres and 60 acres	Separately	4.00	717	179		409	102	
		Combined	3.50	630	180	1%	389	111	9%
V	190 acres and 143 acres	Separately	5.00	884	177		427	85	
		Combined	4.00	678	170	4%*	406	101	19%
VI	90 acres and 100 acres	Separately	2.75	425	154		214	78	
		Combined	2.00	418	209	36%	223	111	43%
VII	190 acres and 118 acres	Separately	5.00	606	121		356	71	
		Combined	3.33	669	200	65%	369	111	56%
VIII	308 acres and 98 acres	Separately	5.90	780	132		399	68	
		Combined	4.83	980	203	54%	533	110	62%
IX	90 acres 100 acres 118 acres	Separately	4.75	563	118		437	73	
		Combined	3.33	669	200	70%	369	111	52%
X	90 acres 100 acres 98 acres	Separately	6.33	695	110		377	60	
		Combined	4.83	980	203	85%	533	110	83%
						AVERAGE	39%		43%

\*The total number of cows and young stock was reduced from 35 to 21 upon combining.

find that the number of horses on the same area is reduced from 8 to 5 upon combining. Although the total horses' work decreased, the work performed by each horse increased 33%. This means that the horses worked more hours per day on the average throughout the year. Considering the same farm group, we see in Table III that when the two farms were united into one, the amount of machinery was reduced 33%. In column 6 the horse work units per \$100 worth of machinery is shown to have increased 25%. This means that the horses are working the machinery harder; that is, a mower cuts more acres of hay and a plow turns more land since the farms have been combined.

The average of these ten groups shows that, when two relatively small farms are combined and run as one large farm, a man does 39% more productive work in a year. Under the same conditions a horse does 72% more productive work in a year. The amount of machinery was reduced \$435 worth or 23% on the average, the remaining machinery then doing 56% more work.

#### REASONS COMBINATION CAME ABOUT.

Some of the reasons why these farmers secured additional land appears to be:

1. Because their labor distribution was poor; they had quite a large amount of stock, but not enough work to employ the men all day or

all the year. Hence they could work the extra land with little or no increase in labor expense.

2. One or two extra horses was all that was necessary in any of the cases studied.

3. No extra investment in machinery was necessary in most cases.

This practice of combining farms shows the increasing efficiency of the farmer due to labor saving machinery and scientific methods. It has been going on for many years in the older parts of the country. Old house and barn sites on many farms are evidence of this. Deeds often show that combination has taken place long before. Inspection of the farm might show no evidence of it.

## CONCLUSIONS.

The facts concerning these farms in Tompkins County, New York, bring out many points which are true for the same types of farms in other regions. Some of the more important of these points are:

1. Combining gives an increased efficiency in the use of (a) man labor, (b) horse labor and (c) machinery.

2. In the case of two small farms, the combining into one large farm permits the purchase of such machines as binders, which it was previously unprofitable to own.

3. When the first farm is large enough to use all kinds of machines profitably, it is possible to dispense

TABLE II—HORSE EFFICIENCY

	1	2	3	4	5	6	7	8	9
	Farm Group	How Worked	No. of Horses	Total Work Units	Total Work Units per Horse	Increase	Crop Work Units	Crop Work Units per Horse	Increase
I	125 acres and 116 acres	Separately	6	505	84		441	73	
		Combined	6	500	84	0%*	441	73	0%*
II	62.5 acres and 53 acres	Separately	7	256	36		227	32	
		Combined	4	221	55	51%	192	48	50%
III	160 acres and 117 acres	Separately	8	579	72		524	65	
		Combined	5	482	96	33%	453	91	40%
IV	130 acres and 60 acres	Separately	6	363	60		325	54	
		Combined	5	342	68	13%	311	62	15%
V	190 acres and 143 acres	Separately	8	597	75		541	68	
		Combined	5	553	111	48%	521	104	53%
VI	90 acres and 100 acres	Separately	5	230	46		207	41	
		Combined	4	257	64	39%	231	57	39%
VII	190 acres and 118 acres	Separately	9	417	46		384	43	
		Combined	6	472	79	71%	432	72	57%
VIII	308 acres and 98 acres	Separately	9	518	58		467	52	
		Combined	6	721	120	107%	662	110	112%
IX	90 acres and 100 acres and 118 acres	Separately	10	389	39		360	36	
		Combined	6	472	79	103%	432	72	100%
X	90 acres and 100 acres and 118 acres and 98 acres	Separately	13	440	34		395	30	
		Combined	6	720	120	253%	662	110	267%
AVERAGE						72%			75%

\*The main farm, 125 acres, is a retail milk farm; upon the purchase of the second farm it was necessary to buy another team.

TABLE III—EFFICIENCY OF MACHINERY

1 Farm Group	2 How Worked	3 Value of Machinery	4 Am't of Machinery Dispensed With	5 % of Machinery Dispensed With	6 Horse Work Units Per \$100 Worth of Machinery	7 In- crease	8 Actual Machines Added
I 125 acres and 116 acres	Separately	\$2700	\$700		19		
	Combined	2000		26%	25	39%	None
II 62.5 acres and 53 acres	Separately	600	100		43		Gr. binder
	Combined	700	(increase)	17%*	32	26%	Corn binder Spreader
III 160 acres and 117 acres	Separately	750			77		
	Combined	500	250	33%	96	25%	None
IV 130 acres and 60 acres	Separately	850			43		
	Combined	700	150	18%	49	14%	None
V 190 acres and 143 acres	Separately	1050			57		
	Combined	700	350	33%	79	37%	None
VI 90 acres and 100 acres	Separately	1124			20		
	Combined	977	147	13%	26	30%	Spreader
VII 190 acres and 118 acres	Separately	1777			23		
	Combined	1419	358	20%	33	43%	None
VIII 308 acres and 98 acres	Separately	2219			23		
	Combined	1450	769	34%	50	117%	None
IX 90 acres 100 acres 118 acres	Separately	1924			20		
	Combined	1419	505	26%	33	65%	Spreader
X 90 acres 100 acres 118 acres 98 acres	Separately	2724			16		
	Combined	1450	1274	47%	50	212%	None
AVERAGE		\$435		23%		56%	

\*Neither farm of this group had a full equipment of machinery before the combination. The 62.5 acre farm had \$400 worth. The 53 acre farm had \$200 worth.

with all machines of the second farm upon combining.

4. Combining may give a greater crop acreage per animal unit, which, in the case of dairy farms, gives a better labor distribution.

5. Combining is a profitable practice if the distance between the farms is not too great. If far apart, the time lost in going from one farm to the other, offsets all the advantages of combining. Neither should the area farmed be too great, because much time will be lost in going from the farmstead to the far fields. In New York State, survey study has shown that the most economical size is from 300 to 500 acres for dairy and general farms.

In general, there are many other advantages, most of which are also characteristic of large farms as compared with small ones.

In the first place, a two-man-sized proposition, is secured. A one-man farm is seldom successful.

As a result of a larger business, the boys are more apt to stay on the farm. They will not stay unless there is productive work to do.

With larger units, larger fields are possible. Experience has proved that large fields may be tilled with less effort per acre than small ones.

When a second farm is annexed, it generally brings with it, a tenant house. This is of great advantage in securing and retaining the hired man,

because it is then easier to secure a married man. A married man is generally a better worker and less apt to leave suddenly and at a critical time.

When a farmer purchases a second farm, he holds that much more land,

from which he can secure the income from the rise in land value.

With a large business, there is also the advantage of more economical buying of seed, fertilizer etc., and the more economical selling of products.

## THE STUDENT'S ASSOCIATION AND THE FUTURE

BY E. L. D. SEYMOUR, '09

BEING given this opportunity to present to the readers of the COUNTRYMAN, the case of the Students' Association, its purposes and its problems, I am going to do so along two lines. First, in the form of a brief report, "official" as it were, of the last meeting and the larger plans that have resulted therefrom; and second, in the form of a few personal observations and suggestions, the result of something over a year of active association with the organization. If, in addition to sketching its present status, I can also stimulate the expression of opinions as to its policy, activity, and the solution of its problems, I shall be more than satisfied. In other words, I want to urge free and candid discussion of the whole subject, either through correspondence with the President or myself or in the pages of the COUNTRYMAN. It is obviously impossible for all, or even the majority of the members to attend the annual meeting; under these circumstances the COUNTRYMAN is the only, not to say the best, medium for the exchange of ideas. And such exchange of ideas is essential to the growth and success of any organization designed to represent such a varied and scattered groups of individuals as the alumni of a college.

### THE 1915 MEETING.

The Sixth Annual Meeting assembled about one hundred persons in one corner of the auditorium of Bailey Hall on the morning of February tenth. President C. H. Royce, after a brief address of welcome, in-

troduced Dean Galloway whose address, appearing elsewhere in this issue of the COUNTRYMAN, was heard with great and attentive interest. A telegram from Mr. C. F. Boshart, regretting his inability to attend and address the meeting, was read, after which President Royce made his annual report.

Mr. Jared Van Wagenen, Jr., followed with a short talk along the same general lines, but full of his characteristic optimism and inspiration. Previous minutes were read and accepted. Nominating and Auditing Committees appointed, and the Secretary-Treasurer's report heard and accepted. The more important details of the latter may be summarized as follows:

#### Membership.

Total signed members.....	553
Total signed members, 1914.....	461
Increase past year.....	92
Total paid members.....	419
Total paid members, 1914.....	380
Increase past year.....	39

#### Finances.

Total receipts.....	\$459 14
Total disbursements.....	363 13
Balance on hand.....	\$96 01
Assets: Balance.....	96 01
Stamps.....	1 58
Total.....	\$97 59
Liabilities: Note due.....	\$520 00
Interest on same.....	15 60
Total.....	\$535 60
Deficit.....	\$439 01

From this it should be noted that

the deficit of the Association has been reduced, since the previous meeting, from \$745.28 to \$439.01. On the other hand it was reported that less than 100 members had paid their 1914 dues of \$1 and that \$53 of the fund pledged at the previous meeting (representing the subscriptions of twelve persons) remained unpaid.

A motion then passed resulted in the appointment of Messrs. Brill, A. C. King and Webster as a "Program Committee," to confer with the Dean for the purpose of devising ways and means for the Association to actively cooperate in forwarding the work of the College. The nominating committee recommended the re-election of all officers, the ticket being unanimously elected.

The following resolution, offered by Mr. F. W. Lathrop, was adopted by unanimous rising vote: *Resolved*, that the Students' Association express to Director Galloway its appreciation of his attitude towards the development of the College of Agriculture and towards the work of the Association, and that it assures him its hearty cooperation in his efforts to advance the usefulness of the College and the agricultural interests of the State.

The meeting shortly after adjourned until evening, when the custom begun last year, of holding an informal reception for Alumni and Faculty was revived in a thoroughly successful and enjoyable manner. The Home Economics Department contributed not only the delightful accommodation of its Auditorium, but also a delicious supper which preceded most pleasantly some informal talks by Messrs. A. C. King, Samuel Fraser, Professor Stone and Director Galloway.

Following this, the Program Committee above mentioned had a long conference with the Dean, discussing various plans and laying the foundation for the developments that are thoroughly outlined in the news letter that has already been or will shortly be issued by the College. Needless to say this radical step, by means of

which the College is going actively to keep in touch with its alumni as individuals, is one that should be appreciated not only by the Association as a whole, which will be tremendously assisted by it, but also by the Alumni, themselves, since it will enable them more easily to combine and more effectively to work for the good of the College and the agriculture of the State.

#### WORK FOR THE ASSOCIATION TO DO.

In my opinion, personally that is, this plan will prove the making of the Association on lines of new, infinitely increased activity. No organization can exist, let alone accomplish anything, unless there is some definite part for each member to play, something to keep his interest alive and active. This, it must be confessed, the Students' Association has frequently lacked, save in a theoretical and patriotic sense—and theory and sentiment find it difficult to hold together half a thousand persons who see each other not oftener than once a year. The new phases of the work of the College will do this, and also will undoubtedly supply the incentive for an increased membership. Thus far only about six percent of the alumni have joined—presumably because it offered them no return and implied no definite duty. Within a few months this will be changed, and opportunity will be given every man and woman who wants to work for the College, to do so through the Association—and shall this not mean at least seventy-five percent of those who have attended the College and partaken of its gift?

It occurs to me that the best results may eventually be obtained by breaking the Association up into local units,—county or even town—each of these to hold monthly or more frequent meetings and to keep in touch through its secretary, with the secretary of the main body. Each group could send representatives to the annual meeting and have equal voice in the affairs of the Association, but



in addition it would have its own organization, its own local activities, and still be at all times ready for service in behalf of the College or the agriculture of State or Nation.

I believe also that the Association should become strictly an alumni body in name and make up, a change involving constitutional amendments which I hope to see presented and carried through at the next meeting. As a definite group of alumni it could be listed among the Associations in the University Register (where it cannot now be included) and it would be prepared and able to strongly urge, if not indeed to accomplish, the election from among its members of a representative to the Board of Trustees. Certainly the largest College in the University, with more than 10,000 alumni deserves such representation. An organized alumni body could bring it about in a manner worthy and destined to benefit all concerned.

Lastly, there is the question of finances. The debt, unavoidably assumed two years ago, has by hard,

continuous effort been reduced to \$420, but as long as any debt exists, the Association will be needlessly and undesirably hampered in its work. The exasperating thing about it is the fact that, if the 125 odd members who have signed but never paid their \$2 membership fee would do so, and if the 400 and more signed and paid members would send in their dues for 1914, still due, the debt would be wiped out and the organization would be on a firm, effective basis, and there would be absolutely no need to solicit contributions and subscriptions from the loyal few who have time after time put their shoulders to the wheel in just such emergencies. So, too, if more of the alumni who were active and interested in the work of the College while undergraduates would come forward and join, the Association would soon find it possible to expend its energies, not in appeals and efforts directed towards the past, but in active, vigorous concerted work towards an ever brighter, more productive future.

#### GREATNESS

**H**ONOR and shame from no condition rise :  
 Act well your part, there all the honor lies.  
 Fortune in men has some small difference made.  
 One flaunts in rags, one flutters in brocade ;  
 The cobbler aproned, and the parson gowned,  
 The friar hooded, and the monarch crowned.  
 "What differ more (you cry) than crown and cowl ?"  
 I'll tell you, friend ! A wise man and a fool,  
 You'll find, if once the monarch acts the monk,  
 Or, cobbler-like, the parson will be drunk,  
 Worth makes the man, and want of it the fellow ;  
 The rest is all but leather or prunella.—*Alexander Pope.*

## A DIVERSION FOR BUSY STAY-AT-HOMES

BY MISS L. A. MINNS

Instructor, Department of Floriculture, Cornell University

VACATIONS are quite a fad nowadays. The idea that a change gives needed rest has obtained a firm hold in the popular mind. But for many persons it would seem as if the vacation is the happy time for which the remainder of the year is endured,—a sort of heaven of perfect rest and enjoyment compared with which all working days are vales of tears and wildernesses of woe. Now vacations, properly approached and intelligently used, are good for many people; but diversions, those things which turn one aside from care and labor, are even better. They are the regular food of recreation to mind and body that nourishes and sustains, while vacations are the infrequent feasts, too often the orgies.

The popular diversions of the time, theater-going, dancing, card-playing, boating, golf, tennis, and others, are all good in their way; but for busy people who find full satisfaction in none of these, the diversion of gardening is to be commended as one of the best. A diversion it might not be to a market gardener; it would satisfy few farmers. A greater difference between the regular work and the recreation may be needed here. And incidentally, does not this reason in a measure account for the lack of artistic gardening about farm homes? Here gardening ought to be done with ease as a natural thing; here examples of home decoration might be set for less favored localities; yet possibly the most helpful recreation for the farmer needs to be of some other sort, farther removed from his ordinary work. But the business and professional man, the housewife, and the student will find in gardening an open sesame to many joys.

Miss Green, in the introduction to her book on school gardening, says:

"There is no hobby that may be so inexpensive; no subject of conversation less likely to become disagreeably personal; no topic offering better opportunity to give and take in the matter of experience than that of flowers. So it follows that a love of flowers tends to level class distinctions; to give openings for real friendliness based upon mutual interests among people whose business and environment may be vastly different. Moreover, the betterment that comes from any worthy hobby follows in the work of flower culture." Charles Dudley Warner testifies that "there is probably nothing which has so tranquilizing an effect, and leads to such content as gardening," while John Sedding says that "the enjoyments of a garden are not in proportion to its magnitude, but far more upon the degree of its culture and the loving care bestowed upon it." Quotations like the above might be multiplied indefinitely, and they are confined to the writings of no race or age, no region or occupation.

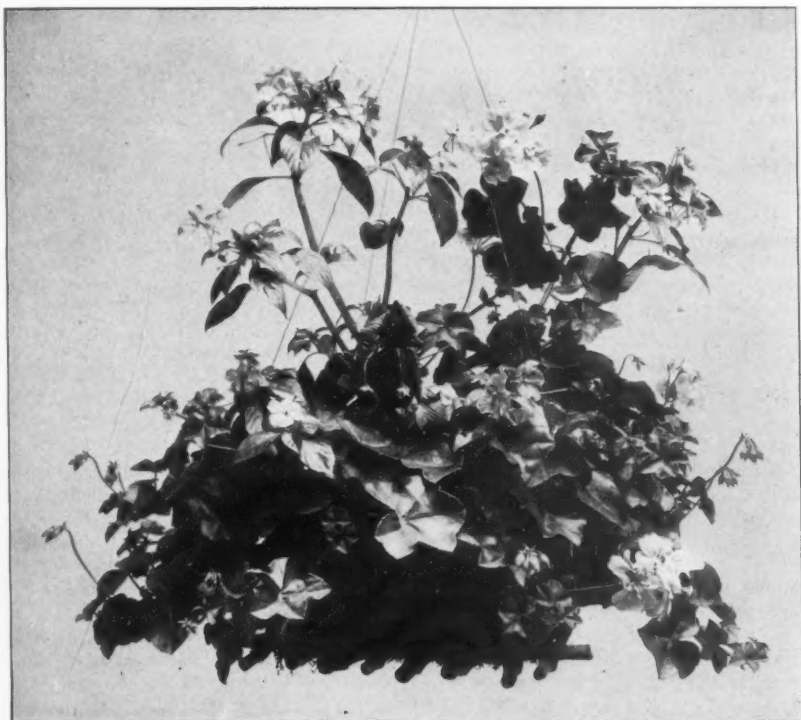
You have no time for gardening? Yes, you have, or you can have unless unreasonable demands are being made upon you. You can generally find time for what you most want to do; and if, added to the conviction that gardening is one of the best things that you can do, you yield to the subtle call of Nature when the birds return and the sap begins to flow in bare branches, you will begin at once to plan a garden. Bring to bear your efficiency in management, or your new time and labor-saving devices, and make them yield you frequent bits of leisure in the hours of light. Gardening belongs to the day. Then plan to use that time to travel far away in spirit from your routine work, though you may be near in body and

all too frequently summoned from your pleasureland.

You have no place but a narrow back yard, shaded by high buildings and inclosed by ugly fences? Just the place for *your* garden! From an upper floor of a big business block one could look down on the crowded houses of an old section of a large city. They seemed like respectable houses, but far from wealthy. The houses were rather small and dingy, the lots

may not have known of its existence, but in the December sunshine it looked very attractive and proclaimed the deep enjoyment its owner took in it.

A little thought and observation will make clear the conditions you must meet in order to have a garden. There are methods for making big bare yards look cozy and inviting, and of making tiny lots look even larger. Unsightly objects can be screened, poor soil can be enriched, wet soil



"BASKETS ARE PRETTY FOR THE PORCH,—PLACE AN EMPHATIC UPRIGHT OR SHOWY PLANT IN THE CENTER AND TRAILERS AROUND THE EDGE."

very narrow, the fences very high, the business blocks near by very tall. As an oasis in the desert of bare yards appeared a neat little back-yard garden in formal arrangement, with box or other evergreen hedges and clean gravel walks. Probably no one could see it from the street, the neighbors

drained. There are plants which thrive in the shade, and others which seem to prefer the glaring sun reflected from walls. There are plants which will bloom the first year from seed that you sow now. There are plant colors to harmonize with all your miscellaneous surroundings.

Though all gardening writers say plan early, do not think it is too late ; start now.

You have no ground space? Well, never mind, you will be spared some discouragements. Have you a porch, or at least a few windows? Try window gardening, that form of plant culture which offers possibilities to more people than any other. For the porch or outside of windows make stout boxes, ten inches deep, eight to ten inches wide, and as long as your space requires. Fasten them securely to the house, support them on stout brackets fastened to the house, or on flat iron supports bent like big hooks to hold them. Stain them dull brown, or paint them dark green or the color of the house trimmings. Place in the bottom about two inches of coarse coal cinders, fill nearly full with sandy loam or good garden soil, enriched with rotted stable manure or some of the dried and pulverized manures on the market and which may be purchased from a seed store or sometimes from the florist.

If you want vines to help frame the window, plant a few seeds of some quick-growing annual like *Cobaea scandens* or Morning Glory. Two other classes of plants you will need ; trailers or semi-trailers for the edges, and upright-growing plants for the main body of the box. Some of the upright plants may be low and bushy, others may be of more striking or emphatic form. For trailers, buy a few plants of German ivy or ivy-leaved geraniums. Visit the market, or consult a florist who handles bedding and box plants. See what is to be had before you buy, and plan carefully the color scheme for your box-garden. Plant carefully, firming the soil around the roots, leaving the surface of the soil at least one-half inch below the top of the box, water abundantly when needed, making sure that water soaks down to the bottom of the soil. Boxes in exposed situations will need water every day in bright or very windy weather, but in the shade, or in cloudy, damp weather,

less often. How often and how much to water cannot be told, but must be learned by experience.

Baskets are pretty for the porch, too. Buy a wire basket, or make one of twigs in log-cabin style, binding together with copper wire. Line with green sheet moss which you can procure from a florist or gather in the woods on decaying timber or the ground. Then fill with good, rich soil, place an emphatic upright or showy plant in the center and trailers around the edge.

But it may be the only space you can spare in one window indoors. Do not say it is useless for you to attempt to garden. Choose one good plant if you have room for no more, give it a chance to live and grow, and watch it respond to care. Your room may be dry and dusty with variable temperature and poor light, yet in the wide range of plants suitable for house plants there are several with which you can succeed. Good seed and plant catalogues, which may be had for the asking, figure and describe many such, and give the most important cultural directions. Garden and household magazines present helpful articles. Several very good, yet inexpensive, books are easily obtainable; and with few exceptions, growers of plants are most willing to communicate knowledge gained through experience. There are no trade secrets. First, know the conditions you can give plants as to light, heat and air; choose the plant for *your* place, give it the best care you can, and then—enjoy it.

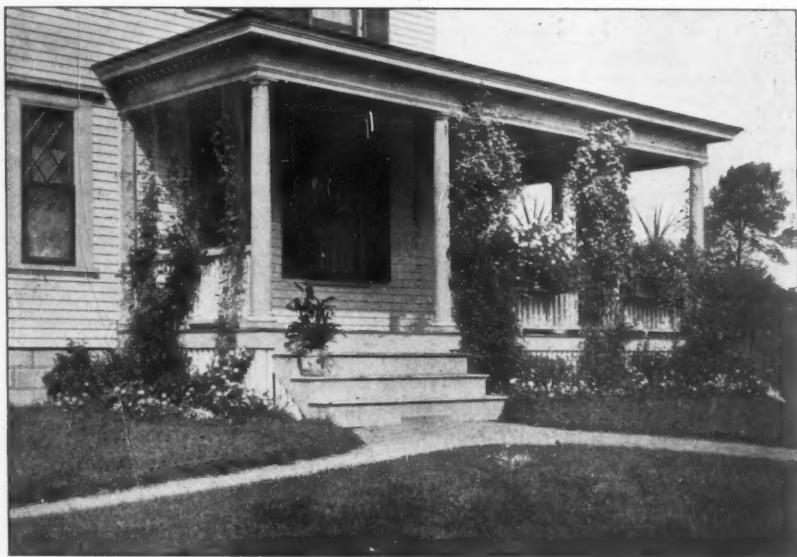
Perhaps it is an *Aspidistra*, cousin to the white Easter lily, though you might study long before you could trace relationship. Its shining oblong-lanceolate, green or green-and-white leaves stand upright from a creeping rootstock that lies on the surface of the soil. They are the showy part, while the small lurid purple flowers must be sought at their pases.

Perhaps it is some member of the Sword Fern group, with arching pin-

nate fronds, beautiful in every stage of their unfolding. No flowers are found, but can you imagine any that would really *improve* a fern? The brown of the leaf stem and fruiting dots tones down the bright green. The soft-haired stolons creep out from the base of the plant and down the outside of the pot searching for new territory to colonize.

Perhaps it is only a Christmas cactus, leafless, with queer jointed green stems. It can endure much neglect, and pays off old scores with such a

for winter months alone, what better than bulbs? An unusual showing of flowers in a private house was of bulbous stock, managed entirely by the master of the house. Strong bulbs of good varieties were carefully selected and ordered early in the summer, potted up as soon as received early in the fall, placed to root in a cool, damp, dark place under the porch and left for many weeks until good root systems had formed. Then brought in the house, a part at a time, they were kept in subdued light in a cool attic



"THERE IS NO HOBBY THAT MAY BE SO INEXPENSIVE; NO TOPIC OFFERING BETTER OPPORTUNITY TO GIVE AND TAKE IN THE MATTER OF EXPERIENCE THAN THAT OF FLOWERS. IT FOLLOWS THAT A LOVE OF FLOWERS TENDS TO LEVEL CLASS DISTINCTION."

wreath of brightest red, beautifully formed blossoms for a few weeks in the dead of winter that it becomes the admiration of the neighborhood.

Or it may be just a thriving, ever-blooming geranium, despised by some because of its commonness, yet of much value. The color range of its flowers is wide. Choose for your surroundings.

Perhaps you do not want plants around at all seasons of the year. If

chamber until the leaves had grown to desired height and the blooms begun to expand. Then what beauty and fragrance! Colors and forms to grace every room in the house, and to harmonize with every color scheme! The good treatment made them last much longer than ordinary formed bulbs; good management kept up a succession of bloom through all the dark cold days. Everyone who visit-

(Continued on page 683)



# THE CORNELL COUNTRYMAN

FOUNDED 1903

INCORPORATED 1914

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NEW YORK STATE COLLEGE OF AGRICULTURE  
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## Elections

THE COUNTRYMAN wishes to announce the following elections for 1915-1916: Editor-in-chief, J. A. Vanderslice, '16, Phoenixville, Pa.; Business Manager, B. W. Kinne, '16, Ovid, N. Y.; Circulation Manager, C. W. Moore, '16, West Henrietta, N. Y.; Managing Editor, Stuart Wilson, '16, Ithaca, N. Y.

## The Student's Obligation

Statistics show that approximately one in every fifteen hundred inhabitants of the United States attends some institution of higher learning. This means that the people of the nation, although perhaps they do not think of it in this way, are setting forward a select few to train and equip themselves to work for the betterment of the race. Bringing this thought nearer home: in the College of Agriculture there are registered over 1,500 regular and special students of whom 1,412 are men and 256 are women. These men are fitting themselves to play an important part in the development of our agriculture, that is, to help grow larger crops, to better marketing conditions, and to advance the social, educational and religious elements in country life. The young women have before them the opportunity of improving the conditions which the farm woman faces. The privilege of attending this University brings with it a great obligation to those who have made it possible for the fortunate young man or woman.

First of all the college student owes a great debt to the people of New York State for supporting this institution, to his parents for making the college education possible, and to the University itself. Space does not permit a discussion of the first two. Turning to the last, consider for a moment some of the ways in which the alumnus may repay his debt to his Alma Mater. His

activities should take three forms, first, loyalty to the institution, secondly, maintaining its good name and lastly, enlarging its usefulness. The University needs his financial support and therefore he should make an alumni pledge, for the University spends more on each student than he repays. In many sections, Cornell men have formed Cornell clubs. These should be supported. Before leaving, every student in the College of Agriculture should become a paid-up member of the Alumni Association and be prepared to take an active part in the workings of this organization. The alumnus should watch very carefully the development of the institution, keeping constantly in touch with the happenings here, so that when his support is needed, he will be in a position to help.

The success of the institution depends on the men it turns out into the world, and in order to give the best type, it must have the proper kind of men with whom to work. As it was so aptly remarked by the president of one university, "If you send me men, I will turn out trained men, but if you send me fools, I can only return educated fools." Thus, watch carefully for promising young people and then influence them in every possible way to come to college. Help others to enjoy the privilege you have enjoyed.

Finally make good in your chosen field. The college stands or falls by the success or failure of its products—those whom it has endeavored to train.

These are days of great perplexity to the seniors. Of **A Word to Seniors** course the question uppermost in mind is, "What am I going to do next year," and in most cases it is a hard problem to solve. In deciding the question, certain very essential points should be kept in mind. Is it a wise plan to accept the first position that turns up simply because it is a job and pays well? Also, should the graduate assume work with the idea that it is only a temporary position and that in a year or two he will change over to some other field which he thinks he likes better? In most cases, the answer is no. Probably, that which a man does the first few years out of college will exert a great influence on his ultimate life's work. Therefore if possible, the man should enter immediately the field that appeals to him most strongly, for men usually make the greatest success by doing that which they like the best. He should look further than the first year—the opportunities and future of the field must be carefully considered.

At the Senior Banquet, President Schurman made a very significant statement. He brought out the fact that whereas some years ago the idea uppermost in the minds of the students seeking positions was to realize the most financially, to-day, this has changed. Young men are thinking more of where they can be of the greatest service. This is a hopeful sign of the times.

If a man likes his work and goes into it for all he is worth, he is the one who is in demand and who is called upon to fill the most important positions. In these days, it is not the man seeking the job—rather the job seeking the man. Consequently, no matter what occupation a man chooses, and no matter how many others are pursuing the same employment, he can feel sure that if he likes the work and goes into it, heart and soul he is bound to succeed.



## CAMPUS NOTES

**Soils Building Latest Structure to Be Completed on Ag. Campus.**

With the completion of the Soils Building the New York State College of Agriculture according to heads of the department, can boast of the most modern building planned for Soils in the country, and practically in the world. It was designed entirely by the Soils Department and has approximate dimensions of 40 ft. by 120 ft. and will ultimately be solely occupied by the Soils Department.

The Elementary Soils laboratory, which occupies the west end of the basement, is uniquely equipped with Alberine stone topped desks, gas, water, and electricity. The store room, stock rooms, assistants' offices, ventilating machinery, and pneumatic water system are also located in the basement.

On the first floor is a lecture room seating 192 students, in addition to several offices. The second story is devoted to three large laboratories, offices, and reception rooms. On the third floor are modern laboratories equipped for research work. The fourth floor consists of a store room, a museum, and a dark room.

**Cornell soon to have Two Years Re-quired Military Training.**

At a recent meeting of the University Administration Committee of the Board of Trustees, the action of the University Faculty was approved in

requiring two years of military drill to take effect on the completion of the new drill hall, or at the beginning of the year 1916-17. At the present time the second year of military work is replaced by gymnasium work. When the new Armory is completed the old drill hall will be converted into a gymnasium according to suggestions by the Department of Physical Training.

**Home Economics Department to have Administrative Secretary.**

From now on the Department of Home Economics will have an official secretary. This new position on the administrative staff was instituted because of the rapid growth of the department and its consequent mass of detailed work. The new secretary will take the burden of the administrative work from those who are now at the head of the departments.

Mr. Oliver M. Olson, whose home was in Iowa and who has been in Washington, D. C., for the last five years, has been selected to fill the new position. While in Washington he was employed in taking the 1910 Census, and later was secretary to Congressman Haugen of Iowa. For some time he has been actively engaged in Y.M.C.A. work. He will act as secretary to the heads of the department, and will gradually take over the administrative end of the work, with special reference to its non-technical phases.

Leslie Brown '16, of Brown Elected Elmira, has been elected captain of the 1915-16 Varsity basketball team by members of this year's squad.

Brown, who has played forward on the Cornell team for two years, won first place in the individual standing of league scorers this season and was acknowledged to be the best forward in the league. He has also been placed on all of the first teams which have been made out from players picked from league teams by various basketball officials and mentors of the year.

Brown has played two full years on the varsity. While a freshman he played as star forward with the College of Agriculture team which won the intercollege championship during that season. He was picked as one of the forwards on Doctor Sharpe's all-intercollege team at the close of that season.

Last season, when Brown was a sophomore and was playing his first season as a member of the Varsity five, he was the second Cornell player in the individual standing, being headed among the Red and White players only by former Captain G. C. Halsted '14. This year Brown was second to McNichol, of Penn, during the greater part of the season, winning out over the Quaker players only in the last game of the season, played with Dartmouth. In a number of the league games played, Brown scored more points than all the other members of the team combined, and in the last two league games of the season he scored thirty-three points alone.

With a number of the first stringers and other members of the squad in the University next fall, the prospects are bright. In addition to Brown, Ashmead, Sutterby and Wilson will be back as well as Shelton and a number of substitutes of last season.



(Courtesy Cornell Sun)

LESLIE BROWN, '16

At a recent meeting of Frigga Fylge it was planned to form an honorary society for the women students of the College of Agriculture, the aim of the society being to form a closer bond between the faculty of the college and the women students. The members are to be chosen with regard to their scholarship, college loyalty and, in so far as they have had chance to develop it with regard to executive ability. The election is on a very broad basis and the members are chosen by the

two upper classes, a Faculty Committee and, after the first election, by the members from the society. Senior members of the society were elected April 14 and 15 and are as follows:

Hilma Bergholtz, Pearl Decker, Mabel Flumerfelt, Norma La Barre, Winifred Moses, Elizabeth Pritchard, Olive Tuttle, Anna Woodward. The members of the 1916 Class will be elected in May.

The Department of Miscellaneous Floriculture and the Notes. State Architect, Mr.

L. F. Pilcher awarded the contract for the new greenhouses to the Wm. H. Sutton Company, and to the King Construction Co. of North Tonawanda.

Alterations costing \$3,000, to the main corridor of Roberts Hall have finally been completed. Many changes were made so that the departments would be more efficiently located, and that the hallway would be freed of unnecessary waste space and obstructions. The library was moved to the basement of the Agronomy Building, and the Secretary's offices now occupy their old quarters. The Dean's offices were enlarged and the hallway was remodeled and painted.

The following officers were elected to the Floriculture section of the Lazy Club: S. B. Emerson '16, A. S. Hailbloom '16, and J. B. Clark '15, to the executive committee; and H. F. Smith '16, to represent the club in the Agricultural Association.

A site north of Beebe Lake, opposite the new agricultural heating plant, was chosen as the location for the new \$15,000 University Observatory. Work on the new structure will begin in the near future.

Richard Fricke '17, of Ebenezer, has been awarded the Junior Scholarship of \$75 of the Western New York Alumni Association.

The Animal Husbandry Department announces prizes of the Annual Cow Judging Contest as follows, E. E. Spencer, first; R. G. Jones, second; R. G. Doolittle, third; E. Bull, fourth; J. M. White, sixth; W. F. Spencer, seventh.

**The April Assembly** Following the precedent of the March Assembly which proved so successful, the April Assembly of the College of Agriculture was held in Bailey Hall on April 22nd. D. S. Hatch spoke of a slight change to be made in the "Honor System" and asked for the cooperation of the student body in carrying out this change. E. C. Heinsohn as chairman of the assembly gave a brief history of some of our favorite songs; which was followed by a special program.

The men and women of the Agricultural Glee Clubs, dressed in the costumes of your grandparents, with C. W. Whitney '13, as singing master, presented "Ye Olde Time Singen Skule." Many old favorites were sung such as, "There's Music in the Air", "See'n Nellie Home", "Jingle Bells", "Old Folks at Home", "Auld Lang Syne" and "America."

Following the singing of the "Evening Song", all adjourned to the cafeteria where light refreshments were served, and music and dancing enjoyed.

**Tenth Annual Musical Festival** This year's festival, to be held May 6, 7, and 8, being the tenth annual Music Festival under the auspices of the Department of Music, will of itself be the biggest and present the most notable array of artists, yet offered the University community. The programs include such names as Pasquale Amato, Lambert Murphy, the tenor who scored here at the 1914 Music Festival in the "role of Faust," Evan Williams, Florence Hinkle, Olive Kline Margaret Keys and Clarence Whitehill.

In the second and third concerts, in the former as soprano, in the Cantata offering of Thomas' "The Swan

(Continued on page 684.)



## FORMER STUDENT NOTES

Former Students—Your classmates are anxious to know what you are doing. Write today, giving us some information about your work. Also if you can employ a student on your farm during next summer, please let us know, as there are many seeking such positions.



CHARLES S. WILSON  
COMMISSIONER OF AGRICULTURE OF THE  
STATE OF NEW YORK

'04, B.A.; '05, M.A.—Charles Scoon Wilson. It is with a great deal of admiration that we insert the name of a former editor of the COUNTRYMAN as the newly elected Commissioner of Agriculture of New York State. Professor Wilson, as he has been known to Cornellians for many years, was born at Hall, N. Y., and lived on his father's farm at that place until he entered Cornell in 1900. After finishing a classical course in the Arts College, during the fourth year of which he was editor of the COUNTRYMAN, he was appointed an instructor in the Department of Horticulture, giving instruction in courses in vegetable gardening. In 1907 the Department of Pomology emerged as a separate department and Professor

Wilson was placed at its head where he remained until his recent appointment.

Commissioner Wilson is the second professor from the New York State College of Agriculture to hold that office within the last four administrations. The previous professor was Professor R. A. Pearson, '94, president of the Iowa State College, who received his appointment from Former Governor Hughes in 1908.

The newly elected commissioner has been spending a leave of absence at the home of his father, Senator Thomas B. Wilson, at Hall. He was scheduled to teach for the third term in the college. To date no successor has been found.

A resolution of the faculty sent to Professor Wilson on March 31st follows:—

"The Faculty of Agriculture desires to express its gratification at your appointment as Commissioner of Agriculture, which alike is an honor to Cornell University and to the State. During the ten years that you have served as a member of this Faculty, you have grown constantly in the esteem of your colleagues and students. We believe that your character and personality, as well as your teaching, have had a large influence in moulding the lives of students.

"The worth of your work as Professor of Pomology is well known throughout the State. By your appointment as Commissioner of Agriculture the State will enjoy in a larger way the benefit of your training, judgment, and devotion to its agriculture and country life. The confidence which we, as your colleagues, now feel in you, will soon be shared by your new associates in the larger field of State Service.

"While we deeply regret your

leaving our Faculty, we rejoice that we are to have your continued counsel as a member of our Board of Trustees; and our heartiest well wishes go with you.

"The Faculty of Agriculture,  
Cornell University."

'75, B.S., '76, M.S.—Dr. Frederic W. Simonds, Professor of Geology in the University of Texas, completed on February 19, twenty-five years of continuous service in that institution. In commemoration of this event a large number of the friends of Dr. and Mrs. Simonds (Norma A. Wood, '75) tendered them a "celebration" on the evening of February 22, at the University Club in Austin and presented them with a handsome silver service. The March number of the *Alcade*, the University of Texas Alumni publication is dedicated to Dr. Simonds "for twenty-five years of unselfish service," and almost the whole of the magazine is devoted to the subject of his work at the university. A reminiscent article by Dr. Simonds himself is followed by more than thirty pages of letters of appreciation by his colleagues and former students.

'94, M.S., '95, Ph.D.—A list of new members of the American Society of Zoologists, just published in *Science*, includes the name of B. F. Kingsbury, Professor of Histology and Embryology in Cornell University.

'00, B.S.A.—Carl Francis Pilat after graduating from Cornell he spent a year in traveling in England, Germany, France and Italy. A portion of his time was spent at the celebrated botanical gardens in Berlin. From 1901-1906 he was assistant architect in the office of C. W. Leavitt, New York City. In 1910 he became a member of the firm and in 1913 he was appointed landscape architect to the Park Board of New York City. In connection with this he redesigned Union Square and designed Isham and Telewana Park. Mr. Pilat is a

fellow of the American Society of Landscape Architects, member of the American Civic Association, and a governor of the Phi Gamma Delta fraternity, a member of the Glenwood Country Club, also a member of the City Club of New York.

'01, B.S.A.—D. L. VanDine was a visitor here a few days ago and gave a talk before the Jugatae. He is a graduate of the Dept. of Entomology and is now engaged in a special investigation of the relation of malaria to farming in the South.

'01, Sp.—Since leaving Cornell H. E. Crouch has been at the University of Illinois and is now manager of E. W. Mosher's farm at Aurora, N. Y. Mr. Mosher's farm is devoted to the raising of cattle.

'06, B.S.A.—W. G. Brielley writes "After graduation accepted the position of Horticulturist at the National Farm School of Doylestown, Pa., remaining there two years. I left there to assist in the establishment of a 30 acre apple orchard on the home farm at Stratham, N. H., and in the spring of 1909 I went to the State College of Washington as instructor in Horticulture, and remained there four years.

During that time I made a special study of fruit harvesting and marketing, obtaining the degree of Master of Science in 1913. I then accepted the position of assistant professor of Horticulture at the University of Minnesota, and have charge of the fruit and vegetable instruction, conducting practically all of the class work in those fields."

'06, B.S.—Ora Lee, jr., business manager of THE COUNTRYMAN, '05-'06, was connected with the Bureau of Soils, at Washington, D. C. from 1906 to 1910 in field work in soil surveying. Since 1910 he has been managing his father's farm at Albion, N. Y., under a four year rotation of potatoes, beans, wheat and hay. He has a small orchard and has recently set out an-

(Continued on page 686).



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*Write for Prices*

**Potato Production in New York State**

(Continued from page 648.)

Probably no state in the Union is more hampered with a large number of varieties than our own. In Steuben County alone, 360 farms were found to be growing 59 named varieties. In spite of this, 25% of the acreage was planted to Variety No. 9 in 1913. It is safe to assume that at least 50% of these could be eliminated without changing the type one iota and the reputation of the county be enhanced by so doing. Our markets have come to recognize the Green Mountain and Rural types as best for seed and culinary use. The sooner we can eliminate worthless varieties of types other than these, the sooner will the potato growers of New York State reap the benefits of a reputation established for reliability of pure seed and a uniform market potato.

The formation of a State Potato Association in 1913 and that of three local county seed or growers' associations since then has done and is doing much to eliminate varieties, standardize type, improve seed, eliminate disease and improve market conditions throughout the state. It is by this means that the great body of growers will be met and ultimate good come.

**The Country Home**

(Continued from page 658)

recognized the bride of four summers before, now pale, thin, haggard, worn, bent, and old looking. He is a successful young farmer; but what shall it profit a man if he gain the whole world of financial goods and lose that which money can never buy back again. He is the young farmer, and here is the advanced case that we also know so well in the country. They were taking the old farmer's wife away to the insane asylum and the old man said, "I can't see where she got it, for she hasn't been out of the kitchen for over twenty years."

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Where you saw it will help you, them and us.

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## Read in the June issue of *The Countryman*

Capitalizing Character	-	-	By T. N. Carver
The Pekin Duck Industry	-	-	By G. F. Poggi
The Layout of a Farmstead	-	-	By A. W. Cowell

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**Bound Brook, N. J.**

Over in that first home I described to you, that farmer has kept his wife and she has done the work and brought up the children, and today she is just as fresh, healthy, and beautiful, even more beautiful in a sense, than the day he married her over twenty-five years ago. Now, to be honest, I have never tried it myself, but I should think that would mean something to a man.

Relieved of the usual drudgery of the farmer's wife, she has had the time and the spirit to make there in all its departments a real country home; to read and file away systematically the books and periodicals that have come into the home down through the years, to make there a good farm library; to arrange and keep a little room in which the farmer has his office. (Why should not a farmer have an office just as much as any other important business man? There is an old square piano in that home and some strung instruments, and the two boys from that home, going out to two universities, had no trouble in making the Varsity musical clubs—one at Yale and the other here at Cornell. Does it seem just right that one has to search so far in the country, as you know he does, to find a man who is at all familiar with music, who sings, or plays an instrument. Men and women, these old singing schools in the school houses, which many of you remember and like to talk about so well, are gone, and it remains to the country home to develop the musical talent that lies latent back there among the hills of the open country.

Put a real country home, right in all its departments, down in the center of a rural community and do you think its influence is all within itself and its family? No, come with me around to the neighbors and I will show you a little improvement, here a little idea, that has been copied, forceful facts proving that the business farmers around here have been unable to dodge, seeing the real practicability

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of the real country home. Even the children of that home, at school and at play, become unconscious missionaries advocating such homes to all. The wife and daughters of that home become among country women an influence of immeasurable worth, having the time and the spirit to take their proper places in the life of the community; and on Sunday morning we shall no longer hear the mother say, "No, I am too tired to dress and go to church today."

Better homes will help to start again that line of teams that we used to see on Sunday morning going down to the country church. And the church service ended, we shall see that line of teams start back again and break up at the cross-roads, each family going to its own home—a home well equipped in all its departments—a home where the atmosphere is such as to make it easier to live out the ideals of life that that country church stands for—a home that pays, and the kind of home that is within the reach of the common farmer.

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(Concluded from page 669)

ed the house enjoyed the busy teacher's diversion, yet no one who had never tried bulb-growing could measure the recreation value which he received.

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all the filthy places of the neighborhood carrying home diseases and insects troublesome to man. They will not make night hideous nor break the morning's choicest hours of repose for a whole neighborhood.

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### Campus Notes

(Continued from page 674)

and the Skylark" and in the latter as soloist of the evening, singing among other selections, Meyerbur's "Shadow Song", from Dinerah, Miss Olive Kline will make her debut to a Cornell Audience.

The Chicago Symphony Orchestra which will remain during the entire Festival is doubtless the best orchestra of its kind in the country to-day. University Organist J. T. Quarles and the Festival Chorus will also combine to make this the largest and best series of concerts that the Musical Department has ever presented.

<p><b>Ag. Baseball</b> Makes Good Start</p>	<p>The Agr. Baseball Team has started the season by winning from Architecture on April 20th, by the</p>
---	---

Where you saw it will help you, them and us.



score of 4 to 1, and by scoring 11 runs to Law's 5 on April 24th.

**The Agricultural College Library** Library is now situated in the basement of the Agronomy building. The capacity has been tripled and the seating capacity doubled. The library can now be used both as a reading room and as a reference room. The collection is at present made up from the Agriculture College, the University, and the late Professor Craig's library. As soon as the Plant Physiology department moves out of the building the whole basement is to be made into one large room.

**The new heating plant** pipe line, which is being installed from the new boiler house to the College buildings, is to be completed and ready for the test on May first.

The work is being done by John W. Danforth and Company of Buffalo. With the exception of one day, due to bad weather, men have been constantly at work since December 17. Cold weather was no handicap and the laying of concrete was carried on regardless of temperature.

The system will consist of a low pressure line for heating the buildings by steam, and a high pressure line for running the necessary pumps and machinery. The pipes, one of 10 in. for heating purposes, and the other of 4 in. for the high pressure, run directly from the new boiler house to Roberts Hall, where the steam will be distributed.

---

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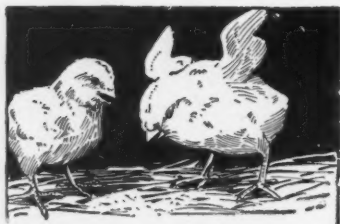
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### Former Student Notes

*(Continued from page 676)*

other young orchard. Lee is seeding in some alfalfa every year with the idea of including this in the rotation by plowing it for potatoes as soon as it reaches its maximum growth at two or three years of age. Lee is a director of the Farmers' Mutual Insurance Company, of Orleans and Niagara counties and is active in the local grange.

'06-'07, W. A.—T. J. Caldwell after leaving Cornell, purchased a 100 acre farm in the fruit belt near Medina, N. Y. Besides being in the fruit business he grows wheat, corn and beans and keeps 200 hens.

'06-'08, Sp.—Edgar D. Reid has an 80 acre farm at Tennent, N. J. His chief cash crop is potatoes.

'09, W. C.—William C. Ford, Poultry Short Course '15, of Solsville, N. Y., is working as salesman in the Poultry Dept.

'08, B. S.—H. B. Rogers, is County agent, for the Farm Bureau Association of Chautauqua Co.

'07-'10, Ray L. Williams, of Cazenovia, N. Y., who was in Cornell is now in partnership with his two brothers on the "Old Homestead" and the adjoining farm, where they are breeding purebred Holstein cattle and Barred Plymouth chickens.

'10, W. C.—E. P. Smith has recently been appointed Farm Bureau Agent for Chenango Co.

'09-'10, W. C.—Virgil H. Tift, of Laconia, Oswego Co., N. Y., is located in northern Oswego County, on a 100 acre farm, producing general crops. Potatoes and fruit are his specialties. It is planned to increase the farm and run a purebred Holstein business along with the fruit-growing.

'09, W. D.—Charles L. Kindelberger is manager of the White Springs Dairy Farm, at Geneva, N. Y.

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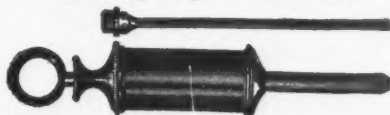
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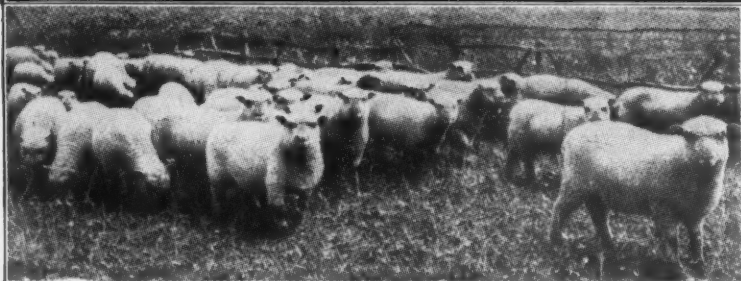
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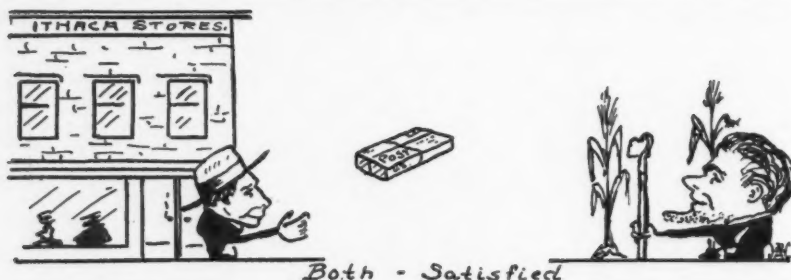
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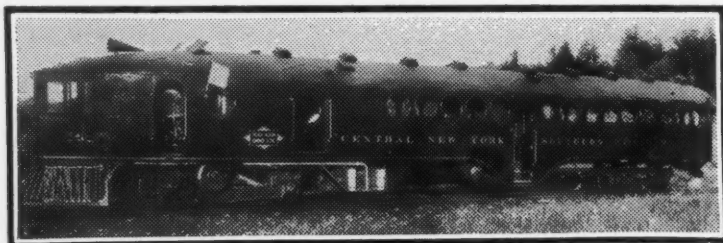
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Why Don't You Join the Big Army?  
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"Who Light the Way to Good Cleaning."

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High Grade Laundry Work  
Good Work—Prompt Delivery

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We keep a line of diamonds  
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THE LATEST STYLES AT  
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## The "New Pocket Adding Machine"

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**A Corset for  
Every Figure  
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Sold by

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Where you saw it will help you, them and us.

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## Buttrick & Frawley

One Price Clothiers and Furnishers

Society Brand, Hickey, Freeman & Michael-Stein Co.'s Clothing handled exclusively. Stetson Shoes, also shoes for rough wear. Mackinaws, Underwear, Sweaters, Etc. Largest and most complete stock in the County. We make suits to your measure.

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ITHACA, N. Y.

Established 1887

## LARKIN BROS.

Retailing, Wholesaling, and Jobbing Grocers

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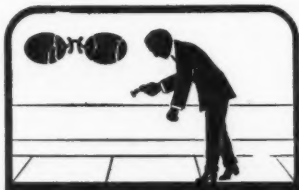
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## ATWATER'S The Big Store with the Little Prices

Everything to Eat—From Soup to Nuts

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COLONIAL BUILDING



### Pick Up a Few Pieces

of your broken Glasses and bring them to me, in less time than you think I'll grind new lenses, use your old mounting, adjust your glasses perfectly and you are ready to see clearly once more.

Whenever repairs on old glasses are necessary or new ones needed, call on

## WILSON OPTICAL CO.

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*Of the* NEW YORK STATE COLLEGE OF  
AGRICULTURE *at* CORNELL UNIVERSITY

✻ ✻ ✻ B. T. GALLOWAY, *Dean* ✻ ✻ ✻

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¶ The College is beautifully situated on the heights over famed Cayuga Lake and between the gorges of Cascadilla and Fall Creeks.

¶ The work is directed toward instilling a spirit of helpfulness and achievement.

¶ The instruction includes practically all subjects offered in the regular winter terms; certain field studies and demonstrations can be offered more advantageously in summer than in winter. The summer work is planned especially for teachers.

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For announcement and detailed information  
address Secretary, New York State College of  
Agriculture at Cornell University, Ithaca, N. Y.

# Dryden Road Cafeteria, Inc.



209-211 Dryden Road

*We set the Standard on the Hill for Highest  
Quality of Food at Minimum Cost*

WILLIAM INSULL, '15, Mgr.

Wm. M. O'Donnell, '15, Asst. Mgr.

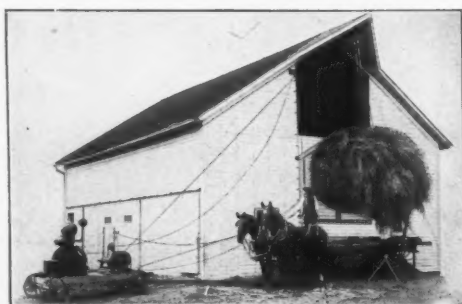
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## Insure Your Hay Crop This Season

Hay must be handled quickly. The season is short and the weather uncertain. A few hours' delay on account of broken equipment or slow, hand-labor methods, may mean a serious loss.

Insure your crop by installing hay unloading tools you can depend on, which will go through season after season without a moment's delay or a penny's cost for repairs, and which will enable you to unload your hay in one-third the time consumed by hand labor.



Lifting Half Ton with Louden Power Hoist

### Louden Hay Tools

Louden hay tools meet every condition, in the field or at the barn. Material and workmanship are guaranteed.

With a Louden fork carrier outfit and a Balance Grapple Fork you can handle satisfactorily any kind of hay or roughage from green alfalfa to loose, threshed straw. It is especially valuable for short growths.

With a Louden sling outfit you can lift an entire load at two drafts if you use sufficient power. Time required about four minutes. A Louden Power Hoist solves the problem of power, and at the same time saves the labor of one man and a team.

The Louden line of hay tools includes sling and fork carriers for either steel or wood track; grapple and harpoon forks; slings; track and track fittings; power hoists; field stackers and specialties.

A postal will bring you our complete illustrated catalog—write today.

## Louden Machinery Company

6503 Broadway ————— FAIRFIELD IOWA

Manufacturers of Stalls and Stanchions, litter carriers, feed carriers, barn door hangers, and hay tools, Write for catalogs.

Where you saw it will help you, them and us.

## Ordering Trees in Spring for Planting in the Fall

is far-sighted business—provided you place your order with reliable growers. Consider these points of advantage.

*First*—You can tell us just what size trees you wish to plant ; we will reserve for you the trees you want.

*Second*—We will see that the trees are properly headed-back, spacing the limbs to make a well-balanced tree.

*Third*—The trees will stand another year in the row, make more root-growth, become larger in trunk and more vigorous.

*Fourth*—The trees will be shipped direct from the nursery, starting on their journey in time to reach you when you are ready to plant—not too early, so that they have to lie on the station platform, nor so late that the ground is frozen hard.

## Will you Plant Apples or Peaches---or Both?

There has been a big hole made in the stock held for spring shipment—but other blocks of Apples and Peaches will be ready to dig for fall shipments.

### Send for our 1915 Book of Fruit and Shade Trees

if you do not have a copy on your table. Interesting things are told about our Ray Peach, Williams Early Red, Staymans and Baldwin Apples. Get the book ; select the varieties for your section ; tell us whether to ship now or to reserve the trees for you.

## HARRISONS' NURSERIES

Cornell Ave.

Berlin, Md.



Sorting and Bunching in the Field



# Which will you buy

a "cream thief" or a "savings  
bank" Cream Separator?

WITH A GREAT MANY MACHINES or implements used on the farm it doesn't make much difference which of several makes you buy.

ONE MAY GIVE YOU A LITTLE better or longer service than another, but it's mostly a matter of individual preference and often it makes little difference which one you choose.

NOT SO WITH BUYING A CREAM separator, however.

THE MOST WASTEFUL MACHINE on the farm is a cheap, inferior or half worn-out cream separator.

THE MOST PROFITABLE MACHINE on the farm is a DeLaval Cream Separator.

A CREAM SEPARATOR IS USED twice a day, 730 times a year, and if it wastes a little cream every time you use it it's a "cream thief," and an expensive machine even if you got it as a gift.

BUT IF IT SKIMS CLEAN TO THE one or two hundredths of one per cent, as thousands and thousands of tests with a Babcock Tester show the De Laval does, then it's a cream saver, and the most profitable machine or implement on the farm—a real "savings bank" for its fortunate owner.

A De Laval catalog to be had for the asking tells more fully why the De Laval is a "savings bank" cream separator, or the local De Laval agent will be glad to explain the many points of De Laval superiority. If you don't know the nearest local agent, simply write to the nearest De Laval main office as below.

AS TO HOW MUCH CLEANER THE De Laval skims than any other separator, the best evidence of this is the well-known fact that all other makes were discarded by the creamerymen years ago, and that to-day 98% of the cream separators used in creameries the world over are exclusively De Laval machines.

THEN THE DE LAVAL IS SO MUCH better designed and so much more substantially built and runs at so much lower speed than other separators that its average life is from 15 to 20 years, as compared with an average life of from 2 to 5 years for other machines.

THERE ARE OTHER ADVANTAGES as well, such as easier turning, easier washing, less cost for repairs, and the better quality of De Laval cream, which when considered in connection with its cleaner skimming and greater durability, make the De Laval the best as well as the most economical cream separator.

REMEMBER, THAT IF YOU WANT a De Laval right now there is no reason why you should let its first cost stand in the way, because it may be purchased on such liberal terms that it will actually pay for itself out of its own savings.

## The De Laval Separator Company

165 BROADWAY, NEW YORK

29 E. MADISON ST., CHICAGO

50,000 Branches and Local Agencies the World Over